

BIRDS

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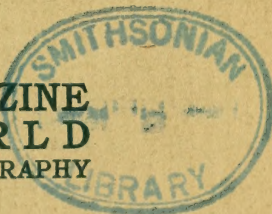
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NATURE

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Illustrated by COLOR PHOTOGRAPHY

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BIRDS AND NATURE

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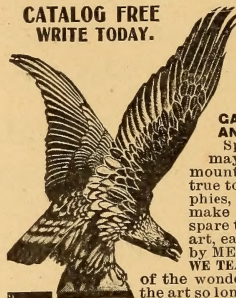
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BIRDS AND NATURE

ILLUSTRATED BY COLOR PHOTOGRAPHY.

THE AMERICAN CROSS BILL.

AMERICAN CROSSBILLS are notable for their small size, being considered and described as dwarfs of the family. Their food consists exclusively of pine, fir, and larch, which accounts for the fact that they are more numerous in Northern latitudes where these trees abound. When the cones are abundant they visit in great numbers many places where they have not been for years, appearing at irregular intervals, and not confining themselves to particular localities.

They are very social even during the nesting season. Their nests are built among the branches of the fir trees, and there they disport themselves gaily, climbing nimbly, and assisting their movements, as parrots do, with their beaks. They will hang downward for minutes clinging to a twig or cone, seeming to enjoy this apparently uncomfortable position. They fly rapidly, but never to a great distance. "The pleasure they experience in the society of their mates is often displayed by fluttering over the tops of the trees as they sing, after which they hover for a time, and then sink slowly to their perch. In the day time they are generally in motion, with the exception of a short time at noon. During the spring, summer and

autumn they pass their time in flying from one plantation to another."

The Crossbill troubles itself but little about the other inhabitants of the woods, and is said to be almost fearless of man. Should the male lose his mate, he will remain sorrowfully perched upon the branch from which his little companion has fallen; again and again visit the spot in the hope of finding her; indeed it is only after repeated proofs that she will never return that he begins to show any symptoms of shyness.

In feeding the Crossbill perches upon a cone with its head downwards, or lays the cone upon a branch and stands upon it, holding it fast with his sharp, strong pointed claws. Sometimes it will bite off a cone and carry it to a neighboring bough, or to another tree where it can be opened, for a suitable spot is not to be found on every branch.

The nest is formed of pine twigs, lined with feathers, soft grass, and the needle-like leaves of the fir tree. Three or four eggs of a grayish or bluish white color, streaked with faint blood red, reddish brown, or bluish brown spots, are generally laid.

The following poem is quite a favorite among bird lovers, and is one of those quaint legends that will never die.

THE LEGEND OF THE CROSSBILL.

From the German of Julius Mosen, by Longfellow.

On the cross the dying Saviour
Heavenward lifts his eyelids calm,
Feels, but scarcely feels, a trembling
In his pierced and bleeding palm.

And by all the world forsaken,
Sees he how with zealous care
At the ruthless nail of iron
A little bird is striving there.

Stained with blood and never tiring,
With its beak it doth not cease,
From the cross it would free the Saviour,
Its Creator's son release.

And the Saviour speaks in mildness:
"Blest be thou of all the good!
Bear, as token of this moment,
Marks of blood and holy rood!"

And that bird is called the Crossbill,
Covered all with blood so clear,
In the groves of pine it singeth,
Songs, like legends, strange to hear.

"TESS."

A REMARKABLE example of the human-like intelligence of a chimpanzee, rivaling that of the celebrated "Mr. Crowley," of New York, so long the chief object of admiration in the museum of Central Park, was that of the subject of this sketch. "Tess" was captured in Africa by Allan Grosch and brought to Boston, where she was purchased by Frank C. Bostock. She was brought up with Mr. Bostock's little girl and was dressed the same as any child of three years. She walked upright, ate with knife and fork, drank from a cup, had better table manners than the average child of the same age, wore finger-rings, ear-rings, and pin, and always surveyed herself in the glass to see that her pin was on straight, and her dress hung right; she smoked a pipe, drew lines on a blackboard, wrote with a pen, and imitated Mr. Bostock's little girl in many ways. She uttered a few sounds which were understood by her master, and seemed to understand what was said to her. She died of pneumonia while being exhibited in the East, was purchased by Mr. C. F. Gunther and presented by him to the Chicago Academy of Sciences. Her age was three years and seven months.

The chimpanzee (*Simia troglodytes*) is considerably smaller than the gorilla; old males reach a height of sixty-four inches; females, forty-eight inches. The arms are long, reaching a little below the knee, and possess great muscular power. In the feet the large toe is separated from the others by a deep incision; and the sole is flat. The hair of the chimpanzee is smooth, the color usually black, but in some specimens it is a dull, reddish brown. Chimpanzees walk on all fours, resting themselves on the calloused backs of their hands.

The toes of the feet are sometimes drawn in when walking. Naturalists say there is a strong inclination in this species to show remarkably varying individual types, which has led to controversies as to whether there were not several different species.

That the chimpanzee was known to the ancients is made fairly certain by the famous mosaic picture which once adorned the temple of Fortuna, and which is said to be still preserved in the Barberini palace at Palestrina in Italy. This mosaic represents, among many other animals of the Upper Nile country, what is believed to have been the chimpanzee. A young specimen was taken to Europe in the beginning of the seventeenth century. They have been taken there repeatedly since and are not infrequent features of the European animal market. Several have been brought to the United States and placed in museums and menageries.

It was formerly believed that the chimpanzee was a gregarious animal, but it is now known that there are seldom more than five, or, at the utmost, ten living together. Sometimes, however, they gather in greater numbers for play. One observer claims to have seen at one time about fifty of them which had assembled on trees and amused themselves with screaming and drumming on the tree trunks. They shun human habitation. Their nests are built in trees, not at a great height from the ground. They break and twist and cross larger and smaller branches and support the whole on a strong bough. A nest will sometimes be found at the end of a bough, twenty or thirty feet from the ground. They change abiding places often in looking for food or for other reasons. Two or more nests are rarely seen in the same tree.



CHIMPANZEE.
A Life-size.

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THE RED-BELLIED WOODPECKER.

A little Woodpecker am I,
And you may always know
When I am searching for a worm,
For tap, tap, tap, I go.

Oh yes, I am proud of my appearance, but really I am not proud of my name. Sometimes I am called the "Zebra Bird," on account of the bands of white and black on my back and wings. That is a much prettier name, I think, than the Red-bellied Woodpecker, don't you? Certainly it is more genteel.

I know a bird that is called the Red-eyed Vireo, because his eyes are red. Well, my eyes are red, too. Then why not call me the Red-eyed Woodpecker? Still the Woodpeckers are such a common family I don't much care about that either.

In the last February number of BIRDS that saucy red-headed cousin of mine had his picture and a letter. Before very long the Red-cockaded Woodpecker will have his picture taken too, I suppose.

Dear, dear ! If all the Woodpeckers are going to write to you, you will have a merry time. Why, I can count twenty-four different species of that family and I have only four fingers, or toes, to count on, and you little folks have five. There may be more of them, Woodpeckers I mean, for all I know.

Speaking about toes! I have two in front and two behind. There are some Woodpeckers that have only three, two in front and one behind. It's a fact, I assure you. I thought I would tell you about it before one of the three toed fellows got a chance to write to you about it himself.

I am not so shy and wary a bird as some people think I am. When I want an insect, or worm, I don't care how many eyes are watching me, but up the tree I climb in my zig-zag fashion, crying *chaw-chaw*, or *chow-chow* in a noisy sort of way. Sometimes I say *chuck, chuck, chuck!* The first is Chinese, and the last English, you know. You might think it sounded like the bark of a small dog, though.

I am fond of flies and catch them on the wing. I like ripe apples, too ; and oh, what a *good* time I have in winter raiding the farmer's corn crib! I have only to hammer at the logs with my sharp bill, and soon I can squeeze myself in between them and eat my fill. I understand the farmer doesn't like it very much.

THE CANADA GOOSE.

Just a common Wild Goose of North America. In the spring and fall you will see great flocks of us flying overhead, an old Gander in the lead, crying *honk*, *honk* as loud as he can. Our nests are only simple hollows in the sand, on the shores of lakes and rivers, around which are placed a few sticks and twigs, the five eggs laid on a layer of gray down.

"You're a Goose."

That's a polite way some people have of calling another stupid, but there are Geese and Geese as well as men and men. I am going to tell you about one Goose that dearly loved her master, and considering the way he treated her you may conclude she *was* a stupid Goose after all.

Well, this particular Goose took such a fancy to her owner that she would follow him about like a dog, even to the village, where she would wait outside the barber's or other shop which he might enter.

People noticed this, and instead of calling the farmer by his proper name began to speak of him as "Mr. Goosey." This angered the man and he ordered the poor loving Goose to be locked up in the poultry-yard. Shortly after he went to an ad-

joining town to attend a meeting; in the midst of the business he felt something warm and soft rubbing against his legs; he looked down and there stood his Goose, with protruding neck and quivering wings, gazing up at him with pleasure and fondness unutterable.

The people about shouted with laughter, which so enraged her master, that seizing his whip, he twisted the thong of it about the poor bird's neck, swung her round and round, and supposing her dead, angrily threw her body out of the window.

A few days after Mr. Goosey was seized with a severe illness, which brought him to the verge of the grave. He recovered, however, and was able at length to sit beside the open window. There on the grass sat the Goose gazing up at him with the same old look of affection in her eyes.

"Am I never to be rid of that stupid thing?" he cried, but when he was told that through all his illness the faithful bird had sat there opposite his window, scarcely touching food, his hard heart melted, and from thenceforth Mr. Goosey treated his feathered friend with the greatest kindness.



THE MOUNTAIN LION.

THIS is only one of the names by which the puma (*Felis concolor*) is known in the United States.

He has different local names, such as tiger, cougar, catamount and panther, or "painter," as the backwoodsmen entitle him, and silvery lion.

The puma ranges the whole of both the Americas from the Straits of Magellan to where the increasing cold in the north of Canada blocks his passage. Like many other large animals, however, the puma has retired before the advance of civilization, and in many of the more thickly populated portions of the United States a straggler, even, is rarely to be found.

The haunts of the puma depend upon the nature of the country. In sections well-wooded he decidedly prefers forests to plains; but his favorite spots are edges of forests and plains grown with very high grass. He always selects for his abode such spots as afford some shelter, in the vicinity of rocks which have caverns for secure concealment, and in which to bring forth his young. He spends the day sleeping on trees, in bushes, or in the high grass; in the evening and at night he goes forth to hunt. He sometimes covers great distances in a single night, and sportsmen do not always find him near the place where he struck down his prey.

All smaller, weak mammals are his prey—deer, sheep, colts, calves, and small quadrupeds generally. When, however, his prey is so large that it cannot all be devoured at one meal, the animal covers it with leaves or buries it in the earth, returning later to finish his repast. This habit is sometimes taken advantage of by his human enemy, who, poisoning the hidden carcass with strychnine, often manages to secure the lion when he comes back to eat it. The use of poison against these and other carnivorous animals by the farmer and stock-raiser has become so general in the West they are rapidly becoming exterminated. If it were not for some such means of defense as this, the sheep-raisers and cattle-growers would be quite powerless to protect their herds

from the attacks of the mountain lion and other beasts of prey.

The puma is a very bloodthirsty animal, and whether hungry or not, usually attacks every animal, excepting dogs, that comes in his way. When hungry, however, he disdains no sort of food, feeding even upon the porcupine, notwithstanding the quills which lacerate his mouth and face, or the skunk, heedless of that little animal's peculiar venom. Ordinarily the puma will not attack man, fleeing, indeed, from him when surprised, but he has been known when emboldened by hunger to make such attacks. He, of course, sometimes kills the hunter who has wounded him, though even then, by the cautious, he is little feared; but an unprovoked assault, such as the mangling of a woman in Pennsylvania, in the eighties, is rare.

It is the habit of the puma to spring upon his prey from an eminence such as a ledge of rocks, a tree, or a slight rise of ground. If he fails to strike his victim, he seldom pursues it for any considerable distance. In northern regions, however, he sometimes pursues the deer when they are almost helpless in the deep snow. When he has seized his victim, he tears open its neck, and laps its blood before he begins to eat. He devours every part of a small animal, but the larger ones he eats only in part—the head, neck, and shoulders—burying the rest.

Very young cubs when captured soon become thoroughly tamed, enjoying the liberty of a house like a dog. When petted they purr like cats and manifest their affection in much the same manner. When displeased they growl, but a roar has never been heard from them. There is one drawback to a tame puma, however, says Brehm. When he has great affection for his master and likes to play with him, he hides at his approach and unexpectedly jumps on him. One can imagine how startling and uncomfortable would be such an ill-timed caress. An old puma, when captured, sometimes rejects all food, preferring starvation to the loss of liberty.

THE LEMON.

DR. ALBERT SCHNEIDER.

THE lemon is the fruit of a small tree from ten to fifteen feet high. It is not particularly beautiful, being rather shrubby in its appearance. It is an evergreen, bearing leaves, flowers, and fruit all the year round. The flowers occur singly in the axils of the leaves. The calyx is persistent, that is, it does not drop off like the corolla, and may be found attached to the base of the fruit. The corolla consists of five spreading petals of a purplish-pink color.

The lemons of the market are from cultivated plants of which there is a large number of varieties. These cultivated varieties or forms took their origin from the wild lemon trees native in northern India, in the mountain forests of the southern Himalayas, in Kumoan and Sikkim.

Lemons have been known for a long time. They were brought to the notice of the Greeks during the invasion of Alexander the Great into Media where the golden-yellow fruit attracted the attention of the warriors who gave them the name of Median apples (*Mala medica*). Later, Greek warriors also found this fruit in Persia, and hence named it Persian apples (*Mala persica*). The eminent Greek philosopher and naturalist Theophrastus, 390 B. C., described the fruit as inedible, though endowed with a fragrant odor, and having the power to keep away insects. On account of this latter property the so-called Median apple was, by some, supposed to be identical with the fruit of the cedar (*Kedros*) and therefore received the name "*Citrus*" from which is derived "citron," the German name, and "citronnier," the French name for the fruit. Our word lemon is said to have been derived from the Indian word *limu* and the Arabian word *limun*. It seems that at

the time of the great Roman historian and naturalist, Pliny (23-79 A. D.), the lemon was not yet extensively cultivated. Dioscorides (50 A. D.) speaks highly of the medicinal virtues of the bitter and acrid wild-growing lemon. Cælius Aurelianus recommends lemon juice in gout and fevers. In 150 A. D., the lemon tree, evidently introduced, was found growing about Naples and in Sardinia, but the fruit was still inedible. About the third century cultivation had so far improved the fruit that it could be eaten.

The Arabians are credited with first having introduced the lemon tree into southern Europe. The noted Arabian geographer, Edrisi, twelfth century, describes the lemon as very sour and about the size of an apple and the plant as growing only in India. This latter statement is, however, erroneous as the lemon had already been extensively cultivated in southern and eastern Spain, where it was introduced by the agriculturally-inclined Moors. It has been cultivated for many centuries in nearly all of the countries bordering on the Mediterranean Sea and is now also extensively cultivated in the tropical and sub-tropical countries and islands of the Western Hemisphere. One variety of species, (*Citrus lemetta*), is a native of the East Indies and is extensively cultivated in the West Indies. Lemon trees are found everywhere in the larger green houses and conservatories along with the closely related orange. (*Citrus vulgaris*).

As the result of cultivation there are now about fifty varieties of lemons in existence. Some of these are comparatively sweet or rather insipid and are therefore known as sweet lemons. The sour varieties are, however, more generally cultivated.



THE WOOD THRUSH.

The Bird of Solitude.

Of all the Thrushes this one is probably the most beautiful. I think the picture shows it. Look at his mottled neck and breast. Notice his large bright eye. Those who have studied birds think he is the most intelligent of them all.

He is the largest of the Thrushes and has more color in his plumage. All who have heard him agree that he is one of the sweetest singers among birds.

Unlike the Robin, Catbird, or Brown Thrush, he enjoys being heard and not seen.

His sweetest song may be heard in the cool of the morning or evening. It is then that his rich notes, sounding like a flute, are heard from the deep wood. The weather does not affect his song. Rain or shine, wet or dry, he sings, and sings, and sings.

During the light of day the Wood Thrush likes to stay in the cool shade of the woods.

Along toward evening, after sunset, when other birds are settling themselves for the night, out of the wood you will hear his evening song.

It begins with a strain that sounds like, "Come with me," and by the time he finishes you are in love with his song.

The Wood Thrush is very quiet in his habits. So different from the noisy, restless Catbird.

The only time that he is noisy is when his young are in danger. Then he is as active as any of them.

A Wood Thrush's nest is very much like a Robin's. It is made of leaves, rootlets and fine twigs woven together with an inner wall of mud, and lined with fine rootlets.

The eggs, three to five, are much like the Robin's.

Compare the picture of the Wood Thrush with that of the Robin or Brown Thrush and see which you think is the prettiest.

THE BLACK AND WHITE CREEPING WARBLER.

THIS sprightly little bird is met with in various sections of the country. It occurs in all parts of New England and New York, and has been found in the interior as far north as Fort Simpson. It is common in the Bahamas and most of the West India Islands, generally as a migrant; in Texas, in the Indian Territory, in Mexico, and throughout eastern America.

Dr. Coues states that this warbler is a very common summer resident near Washington, the greater number going farther north to breed. They arrive there during the first week in April and are exceedingly numerous until May.

In its habits this bird seems to be more of a creeper than a Warbler. It is an expert and nimble climber, and rarely, if ever, perches on the branch of a tree or shrub. In the manner of the smaller Woodpecker, the Creepers, Nuthatches, and Titmice, it moves rapidly around the trunks and larger limbs of the trees of the forest in search of small insects and their larvae. It is graceful and rapid in movement, and is often so intent upon its hunt as to be unmindful of the near presence of man.

It is found chiefly in thickets, where its food is most easily obtained, and has been known to breed in the immediate vicinity of a dwelling.

The song of this Warbler is sweet and pleasing. It begins to sing from its first appearance in May and continues to repeat its brief refrain at

intervals almost until its departure in August and September. At first it is a monotonous ditty, says Nuttall, uttered in a strong but shrill and filing tone. These notes, as the season advances, become more mellow and warbling.

The Warbler's movements in search of food are very interesting to the observer. Keeping the feet together they move in a succession of short, rapid hops up the trunks of trees and along the limbs, passing again to the bottom by longer flights than in the ascent. They make but short flight from tree to tree, but are capable of flying far when they choose.

They build on the ground. One nest containing young about a week old was found on the surface of shelving rock. It was made of coarse strips of bark, soft decayed leaves, and dry grasses, and lined with a thin layer of black hair. The parents fed their young in the presence of the observer with affectionate attention, and showed no uneasiness, creeping head downward about the trunks of the neighboring trees, and carrying large smooth caterpillars to their young.

They search the crevices in the bark of the tree trunks and branches, look among the undergrowth, and hunting along the fences for bunches of eggs, the buried larvae of the insects, which when undisturbed, hatch out millions of creeping, crawling, and flying things that devastate garden and orchard and every crop of the field.



AMERICAN MISTLE-TOE.

THE MISTLETOE

WILLIAM K. HIGLEY.

FROM very early times plants, animals, and even minerals have played an important part in the expression of religious ideas and in the execution of religious rites. Among the plants, sacred, and closely allied to the mystic life of a portion of the human race, there is none more interesting and rich in legend than the mistletoe. This was associated with religious observances before the time of Christ and was mentioned by our earliest historians.

There are over seventy species of this peculiar plant. Both the American variety (*Phoradendron flavescens*) and the European, or true mistletoe (*Viscum album*), belong to a family of parasites, so called because they derive their nourishment entirely or in part from some other plant instead of taking it directly from the soil. Owing to the presence of the green coloring matter (*Chlorophyl*), in the stems and leaves, the mistletoe is not entirely parasitic, but is to a certain extent self-supporting, drawing but a portion of its nourishment from the tree on which it grows.

It is found both on deciduous and on evergreen trees. In some locations in Europe it is especially abundant on the apple tree and, if in the right climate, there are few tree species which are exempt from serving as its host.

The mistletoe is an evergreen shrubby plant of slow growth, attaining a length of about four feet and its duration of life is practically that of the tree on which it grows. The leathery leaves and rugged stems are yellowish green in color and, in the axils of the leaves, are the small and insignificant flowers, which ripen about Christmas-tide into pearly white translucent berries. The seeds are probably distributed through the agency of fruit-eating birds which, after eating, wipe their beaks on the trunks and limbs of trees, leaving the

seeds snugly planted in the cervices of the bark.

In Scandinavian mythology we find the mistletoe used to cause the death of one of the favorite gods of the Norsemen, Baldur, the god typifying the beautiful, the good, and the wise. In this myth other friendly gods, fearing Baldur's death, with his mother, exacted an oath from animals, plants and minerals that they would not injure him. Unfortunately, however, the mistletoe was forgotten and Loki, the god of evil, knowing this fact and jealous of Baldur's beauty, gathered a branch, and taking it to Hödur, the blind god of brute strength, directed him how to aim it. Baldur was pierced by the mistletoe, and fell to the ground, dead.

But it was in "Merrie England" that the mistletoe was held most sacred, most revered. The Druids, the early priests of the Gauls and Britons, were accustomed to retreat to the oak groves for their mystic rites. The mistletoe was not often found upon the oak, but when discovered, was the occasion of special rejoicing and peculiar ceremonies, being cut with a golden hook, and white bulls were sacrificed under the favored tree. We are told by some authorities that as the oak was the symbol of God, the All-powerful, so the mistletoe became the symbol of man, receiving his life and sustenance from God. There are other interesting myths: and, in fact, the mistletoe is closely woven with many beliefs and rites of the Druids.

At Christmas-tide the mistletoe is largely used for decorative purposes, especially in England, where the custom is ancient, and also in our own land, where each holiday season finds more and more of this unique plant gracing chandelier and window, until we, too, may some day find our maids all kissed—

"Under the mistletoe bough."

THE MEADOW LARK.

"Not an irch of his body is free from delight.
Can he keep himself still if he would? Oh, not he!
The music stirs in him like wind through a tree."

THE well known Meadow or Old Field Lark is a constant resident south of latitude 39, and many winter farther north in favorite localities. Its geographical range is eastern North America, Canada to south Nova Scotia, Quebec, and Ontario to eastern Manitoba; west to Minnesota, Iowa, Missouri, eastern Kansas, the Indian Territory, and Texas; south to Florida and the Gulf coast, in all of which localities, except in the extreme north, it usually rears two or three broods in a season. In the Northern States it is only a summer resident, arriving in April and remaining until the latter part of October and occasionally November. Excepting during the breeding season, small flocks may often be seen roving about in search of good feeding grounds. Major Bendire says this is especially true in the fall of the year. At this time several families unite, and as many as two dozen may occasionally be flushed in a field, over which they scatter, roaming about independently of each other. When one takes wing all the others in the vicinity follow. It is a shy bird in the East, while in the middle states it is quite the reverse. Its flight is rather laborious, at least in starting, and is continued by a series of rapid movements of the wings, alternating with short distances of sailing, and is rarely protracted. On alighting, which is accompanied with a twitching of its tail, it usually settles on some fence rail, post, boulder, weedstock, or on a hillock in a meadow from which it can get a good view of the surroundings, and but rarely on a limb of a tree. Its favorite resorts are meadows, fallow fields, pastures, and clearings, but in some sections, as in northern

Florida, for instance, it also frequents the low, open pine woods and nests there.

The song of the Meadow Lark is not much varied, but its clear, whistling notes, so frequently heard in the early spring, are melodious and pleasing to the ear. It is decidedly the farmers' friend, feeding, as it does, on noxious insects, caterpillars, moths, grasshoppers, spiders, worms and the like, and eating but little grain. The lark spends the greater part of its time on the ground, procuring all its food there. It is seldom found alone, and it is said remains paired for life.

Nesting begins in the early part of May and lasts through June. Both sexes assist in building the nest, which is always placed on the ground, either in a natural depression, or in a little hollow scratched out by the birds, alongside a bunch of grass or weeds. The nest itself is lined with dry grass, stubble, and sometimes pine needles. Most nests are placed in level meadows. The eggs and young are frequently destroyed by vermin, for the meadow lark has many enemies. The eggs vary from three to seven, five being the most common, and both sexes assist in the hatching, which requires about fifteen or sixteen days. The young leave the nest before they are able to fly—hiding at the slightest sign of danger. The Meadow Lark does not migrate beyond the United States. It is a native bird, and is only accidental in England. The eggs are spotted, blotched, and speckled with shades of brown, purple and lavender. A curious incident is told of a Meadow Lark trying to alight on the top mast of a schooner several miles at sea. It was evidently very tired but would not venture near the deck.

BIRDS OF PASSAGE.

Black shadows fall
From the lindens tall,
That lift aloft their massive wall
 Against the southern sky :

And from the realms
Of the shadowy elms,
A tide-like darkness overwhelms
 The fields that round us lie.

But the night is fair
And everywhere
A warm, soft vapor fills the air
 And distant sounds seem near :

And above, in the light
Of the star-lit night,
Swift birds of passage wing their flight
 Through the dewy atmosphere.

I hear the beat
Of their pinions fleet,
As from the land of snow and sleet
 They seek a southern lea.

I hear the cry
Of their voices high
Falling dreamily through the sky,
 But their forms I cannot see.

—LONGFELLOW.

NUTS.

1. The English walnut (*Inglan-aceoe*) has a thin shell. This nut is much esteemed and is an important article of commerce. It yields by expression a bland fixed oil, which, under the names of "walnut oil" and "nut oil," is much used by painters and is a common article of food.

2. The peanut (*Arachis*) is also called ground nut and earth nut. It is cultivated in all warm regions of the globe, and its usefulness is such that it is likely to extend. It was introduced from Peru into Spain, and thence into France. It succeeds in favorable situations and yields from eighty to one hundred fold. Its cultivation is so general in the eastern parts of Africa, and even in the interior, that doubts have been therefore entertained of its American origin, of which, the most eminent botanists seem to be quite satisfied. The fruit is sometimes eaten raw, but generally boiled or roasted. The importance of the plant is chiefly owing to the fixed oil contained in it, which is used for the same purposes as olive or almond oil.

3. The Brazil nut is the fruit of the *Bertholletia excelsa*, a large tree of the order *Lecythidaceae*, found chiefly on the Orinoco. The shell is very hard, and contains a rich, oily meat in one piece like an almond. The Portuguese early carried on an extensive trade in these nuts. They are now chiefly imported from Para, and continue to form an article of great commercial importance. When fresh, they are highly esteemed for their rich flavor; but they become rancid in a short time from the great quantity of oil they contain. This has been largely extracted for use in lamps.

4. The hickory nut (*Carya alba*) abounds near the great lakes and in some parts of New Jersey and Pennsylvania. The nuts are in considerable demand and are sometimes exported. The

shell is thin, but hard, and the kernel sweet. The oil, which was used by the Indians as an article of food, was obtained from it by pounding and boiling.

5. The filbert is the fruit of the *Corylus avellana* or hazel. The kernel has a mild, farinaeous, oily taste, agreeable to the palate. In England filberts are usually large hazel nuts. The American hazel nuts are of two other species.

6. The chestnut (*Castanea vesca*) is eaten raw, boiled, or roasted, or is ground into meal and puddings, cakes, and bread are made from it. The tree is common to Europe and America.

7. The Pecan (*Carya oliviformis*), sometimes called the Illinois nut, a species of hickory nut. The shell is thin and the meat well flavored. The tree grows in North America, chiefly in the Mississippi valley, and in Texas, where it is one of the largest of forest trees.

8. The almond (*Amygdalus*) grows on a tree about twenty or thirty feet high, a native of the East and of Africa, but has now become completely wild in the whole south of Europe. It is planted for the sake of its beautiful flowers, which resemble those of the peach in form and color. The wood of the tree is hard and of a reddish color, and is used by cabinet-makers. But it is chiefly valued on account of the kernel of its fruit, well known by the name of almonds, an important article of commerce. It is mentioned in the Old Testament, and appears to have been cultivated from a very early period. It was introduced into Britain as a fruit-tree before the middle of the sixteenth century, but it is only in the most favored situations in the south of England that it ever produces good fruit. It is successfully cultivated in southern California. Almonds are either sweet or bitter. The bitter appear to be the original kind, and the sweet to be an accidental variety.



THE CALIFORNIA WOODPECKER.

THIS fine specimen of the Woodpecker is by far the most sociable representative of the family in the United States, and it is no unusual occurrence to see half a dozen or more in a single tree. It is also a well disposed bird, and seldom quarrels or fights with its own kind, or with smaller birds, but it attacks intruders on its winter stores with such vigor and persistence that they are compelled to vacate the premises in a hurry. Its manner of flight and call notes closely resemble those of the Red-Headed Woodpecker, and, like it, it loves to cling to some dead limb near the top of a tree and drum for hours at a time. It is one of the most restless of birds, and never appears to be at a loss for amusement, and no other bird belonging to this family could possibly be more industrious.

During the Spring and Summer its food consists, to some extent, of insects, including grass-hoppers, ants, beetles, and flies—varied with cherries, apples, figs, berries and green corn. Acorns form its principal food during the greater portion of the year. Of these it stores away large numbers in the thick bark of pines, in partly rotten limbs of oak trees, telegraph poles, and fence posts. A writer in the "Auk" says of its habits: "It is essentially a bird of the pines, only occasionally descending to the cotton woods of low valleys. The oaks, which are scattered through the lower pine zone, supply a large share of its food. Its habit of hoarding food is well known, and these stores are the source of unending quarrels with its numerous feathered enemies. I have laid its supplies under contribution myself, when short of provisions and lost from the command on which I had been traveling, by filling my saddlebags with half-dried acorns from under the loose bark of a dead pine."

The California Woodpecker is found in western Mexico, northern Lower California, and north through California into western Oregon. So far as is known the eastern limit of its range is the Santa Fe Mountains.

Its nest is usually from fifteen to twenty-five feet from the ground, excavated on the side of a branch of a good sized oak or sycamore. Breeding commences in April or May, according to locality. Both sexes assist in the excavation. The entrance hole is about one and three-fourths inches in diameter, perfectly circular, and is sometimes chisled through two or three inches of solid wood before the softer and decayed core is reached. The inner cavity is greatly enlarged as it descends, and varies from eight to twenty-four inches in depth. The eggs rarely exceed four or five, and are pure white in color.

The most remarkable fact concerning this species is the peculiar manner in which it stores acorns. The thick bark of large sugar and other pines has been seen completely riddled with small holes. A section of a partly decayed oak limb, three feet two inches long and five and one-half inches in diameter, contained 255 holes. Each hole is intended to hold a single acorn. The acorns fit quite accurately, are driven in point foremost, and are not readily extracted. Sweet acorns are selected. To get at their contents the acorns are carried to a convenient tree where a limb has been broken off, driven into a suitable crevice, split open, and the outer hull removed. Truly the California Woodpecker is no idler or bungler, nor is he a free-booter, like the noisy, roosting Jay. He makes an honest living, and provides for the evil day which comes alike to man and beast.

THE BUTTERFLY TRADE.

THERE are probably hundreds, if not thousands, of butterfly collectors in this country, says the Boston Transcript. But it is doubtful if there are many who gain their livelihood in this way, as is done by the four Denton brothers of Wellesley, who have among them one of the finest, and certainly one of the most beautiful collections in the world, comprising specimens from India, China, South America, and many other distant countries.

Large and fine as their collection is, however, it contains only a small part of the butterflies that they have collected, as almost all of them are sold to museums, and collectors, or simply as house ornaments, for as they mount them, they are objects of great beauty and are preserved in such a way as to give every opportunity for the display of their fine points, while they will last for an indefinite number of years.

They began this work in the usual amateur manner, and simply for their own amusement, but instead of becoming tired of it and dropping it, as is the case with most amateur collectors, they became more and more interested, and their methods attracted so much attention and interest in outsiders that they finally found it advisable to adopt this as their life work. How extensive a business it is may be judged from the fact that they have found it profitable to make a journey of six months to South America for the purpose of increasing the size of their collection, and that they have in India, China, and several other parts of the world agents who collect for them and ship the butterflies to them here.

The work of preparing the butterflies for sale and exhibition is all done in a small building back of their house on Washington street at Wellesley, and keeps them busy nearly all the

time that they are not collecting. When the butterflies are sent or brought in, each is in a small paper folder, which protects it from friction or breakage. The insects are laid with their wings together and pressed, being then put into the folder, and shipped in small boxes, enough being put into each box to prevent them from slipping about. In this way the insects arrive in very good condition, although they are, of course, very dry and brittle if they have come a long distance. In order to get rid of this dryness, which would make it impossible to work on them, they are put into a box with a lot of wet paper, and the dampness from this soon saturates them and makes them soft again and easily shaped. The next part of the work is in repairing what damage they have sustained, for, of course, in spite of the care of shipping, they are not as perfect as before they were caught, and there is a great deal of delicate work on them before they are ready for exhibition or sale.

Mounted, a drawer full of butterflies is more beautiful than a collection of precious gems, for, although many of our native butterflies are exceedingly beautiful, they are not to be compared with the average of those from India, China, and South America. In these dead, heavy black alternates with brilliant crimson, yellow, and gold, livid greens and blues, and deep, rich garnet and purple, sometimes in broad bands and blotches of glowing color, and in others in wonderfully delicate and intricate traceries and patterns. The texture of the wings is also infinitely more beautiful than anything we have here, some of them having a heavy rich gloss that exceeds that on the finest fabric that human skill can produce, while others have the deep changing lustre of gems or liquids.



WHIPPOORWILL.
(*Antrostomus vociferans*).

THE WHIPPOORWILL.

WHAT farm boy has not heard this birdless voice echoing from the ghostly shades of the thicket close at hand, or scarcely audible in the distance? Perhaps you have heard it as you have passed between the wood and the hill over there, coming clear from the wood but re-echoing from the hill only the shrill last syllable. Farther away on the distant hill-top you may have taken this last syllable for the piping of the salamander. The "whippoorwill" song belongs with the early May moonlit balmy nights, before the blossoms have lost their best perfume and before farm work has become a mere drudgery.

It vividly recalls the merry Maybasketing frolics, apparently so necessary to existence on the farm; the fresh green fields and woodland blossoms; the planting season with all its hidden promises. There is, in the warble of the bluebird, glad promise of returning spring; and in the animated whistle of the phoebe reiteration of the earlier promise; but the whippoorwill tells of that delightful season realized. His is not a complaint groaned forth, but a glad announcement of joy fully come.

My early home nestled in one of those gems of woodland that dot the rolling Iowa prairies. One of my earliest memories of this old home is the twilight choruses of whippoorwills in the doorway. They often ventured upon the door-step and sang for minutes at a time, apparently oblivious of the members of the family seated just inside the open door. On more than one occasion more than one bird occupied the door-step at the same time, all the while apparently trying to drown each others' voices in a continuous flow of song. At such times

the delightful mellowness which one hears, with the birds in the distance, gives place to an almost painful, penetrating shrillness. The more deliberately uttered song is invariably preceded by a strongly guttural sound not unlike that produced by striking an inflated rubber bag. The near-by song, to my ear, sounds like "*qui ko wee*," the first syllable with a strong "q" sound. I have never heard them sing later than 11 o'clock in the evening nor earlier than 3 in the morning.

It is well-nigh impossible to creep upon a singing bird in the woods, even if it could be seen in the dim light, but it was not unusual, at my old home for the birds to playfully fly round and round anyone who might be standing out in the yard at twilight. The birds often came so close that the wings seemed to brush the face. The flight is so utterly noiseless that the object of their sport is aware of the presence before he can fully realize what it is.

The whippoorwill inhabits the eastern portion of the United States, west to eastern North and South Dakota and Nebraska, western Kansas, Indian Territory and Texas; north to southern Canada, into Nova Scotia and Manitoba; and south in winter into eastern Mexico and Guatemala. It breeds in the northern and central parts of its range, and rarely to Florida.

The nest is made late in May or early in June, in the Northern states. The eggs are two in number, light gray or white, with brown and lilac markings often arranged in scratchings and pencilings besides the spots and blotches. There is usually scarcely more of a nest than the leaves lying on the ground; rarely nothing but the bare ground.

THE SNAPPING-TURTLE.

BY reason of the ferocity of disposition of this curious animal, the snapping-turtle (*Chelydra serpentina*) is rather formidable, not only to the smaller creatures which inhabit the same localities, but also to man, its bite causing very severe wounds. It is found in America from Canada to Ecuador, and there are few localities where it is not met with frequently. Swimmers in small lakes are sometimes attacked by it, the habits of the animal both in the water and on land being the same. It is bold as well as fierce, often suffering itself to be lifted from the ground by the object which it has grasped rather than to let go its hold. If attacked, the reptile's long reach and strong jaws enable it to defeat any ordinary foe. The elongated tail of the snapping-turtle has given rise to the popular name, alligator turtle and, being appended to the small, comparatively thin shell, giving an elongated appearance to the body, the specific name *serpentina* resulted.

When the snapper elevates itself for the attack, with half-open mouth and sulken eyes, there is said to be something fiery and defiant in its attitude, though it is so slow and awkward in recovering itself after missing its point of attack that it presents a most ludicrous appearance. These turtles are remarkably strong. The elder Agassiz states that he observed one bite off a piece of plank more than an inch thick. They also attain considerable size, being the largest inland representative of the order, specimens not infrequently exceeding three feet in length. It is carnivorous in its habits, and is very destructive of fish, small quadrupeds, birds, and reptiles. Many have been the water-fowl which have ventured too close to their voracious enemy. Its appetite is said to be so

great that it will even catch young alligators, and devour them in spite of their teeth and struggles.

The flesh of the snapping-turtle is delicate, tender, and of rich flavor. Every fisherman knows that it will take almost any kind of bait, provided it be of animal substance. It, however, prefers fish, and cannot resist a hook so baited.

In the northern United States, from the tenth to the twentieth of June, it has been observed, the female, at early morning, leaves the water and crawls to a sandbank, digs a small cavity with its hind leg, into which the small, round eggs are deposited to the number of twenty-five or thirty, when the sand is drawn over them, the surface smoothed down, and the animal is soon back in the water, the entire operation not lasting over twenty minutes. This method is different from that of our other land turtles. Nothing but sand will suit the purpose of the snapping-turtle. In order to find a suitable spot for the burial of her eggs, the female is often forced to traverse a considerable distance. The sand must be quite dry and exposed to the full rays of the sun. The little ones are hatched in July. The young run by instinct into the water.

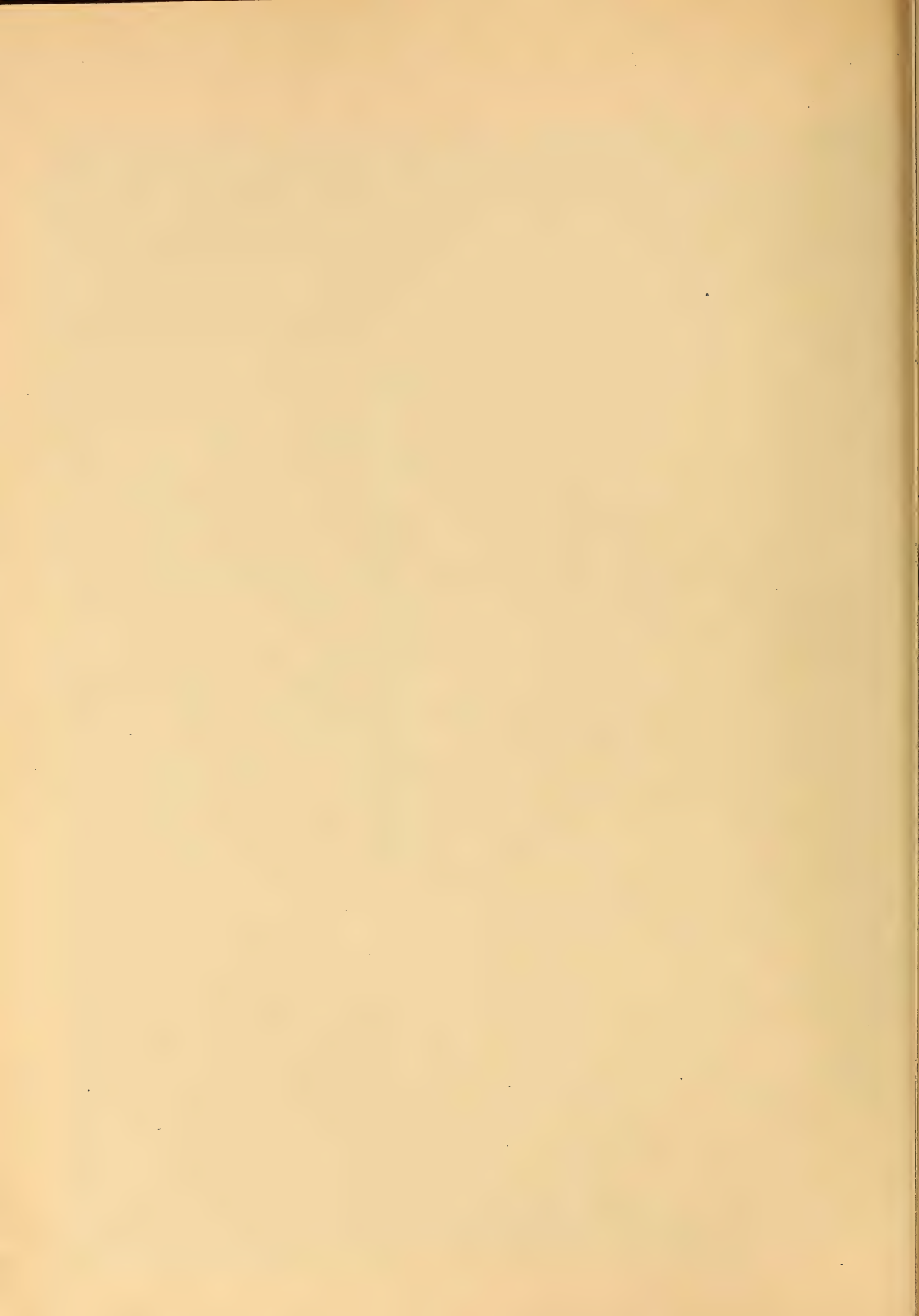
Remarkable stories are told of the longevity of the turtle and of its tenacity of life. That they live to near a century is well authenticated. After the head is severed from the body the head will open and shut the mouth and roll the eyes. In one case a stick was held between the open jaws, which closed upon it with violence, and kept hold of it. Meanwhile the headless body was crawling on the ground.

An allied form (*Matrochelys lacer-tina*) inhabits the tributaries of the Mexican Gulf, extending northward in the Mississippi as far as Missouri.



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SNAPPING TURTLE.
 $\frac{1}{4}$ Life-size.



THE RED FOX.

Like the Squirrels, Foxes vary in size and color according to the countries in which they live. Their habits are mostly nocturnal, that is to say, they prowl around after dark.

By day the Fox lies concealed in his burrow—if he owns a house of that sort—or else in the depths of some thicket. Toward evening he goes out in search of something to eat—Hare, Rabbit, Pheasant, Mouse, or Bird.

Reynard, as the Fox is often called, does not attempt to chase the Hare, for it would be too swift for him, nor the Rabbit, for it would quickly dive into its hole, nor the Pheasant, for it would fly away. No, indeed! Mr. Fox is too cunning for that. He just quietly creeps to some place where Hares or Rabbits or Pheasants are likely to pass, and then as they run by him, out he pounces and secures his evening meal.

When the Rabbit has a nest full of little "Bunnies," she takes good care to keep them at the end of the burrow. It is too small for the Fox to creep into, so she thinks they are safe. But Mr. Fox finds a way, a much better way, he thinks, to get at the little, soft, furry things, which will hardly make him a

meal anyway. He sniffs around, locates the spot right above the the burrow, digs downward, and soon—well, when he gets through there are no "Bunnies" in the nest. Mr. Fox smiles, winks one eye, and trots off.

Sometimes he steals into a hen-roost, and woe to nearly every chicken in the roost. He eats all he can, carries some of them home, and the remainder he buries for future use.

"Cunning as a Fox." That is an old saying, you know, and we apply it to persons who take advantage of heir fellow beings.

However, no matter how great a rascal the Fox is, we must pity him when pursued for "sport" by a pack of hounds, as well as men and women. When irritated or alarmed, the Fox gives off a strong, disagreeable scent, which lies so long on the ground that it may be perceived for nearly an hour after he has passed. He has been known to dive into a heap of manure to throw the dogs off the scent; jumping over a wall, run a little way, come back again, lie under the wall until all the dogs had passed, then leap a second time over the same place where he had passed before, and make off on his old track.

THE ORCHARD ORIOLE.

The Orchard Oriole is here.

Why has he come? To cheer, to cheer —C. C. M.

THE Orchard Oriole has a general range throughout the United States, spending the winter in Central America. It breeds only in the eastern and central parts of the United States. In Florida it is a summer resident, and is found in greatest abundance in the states bordering the Mississippi Valley. This Oriole appears on our southern border about the first of April, moving leisurely northward to its breeding grounds for a month or six weeks, according to the season, the males preceding the females several days.

Though a fine bird, and attractive in his manners and attire, he is not so interesting or brilliant as his cousin, the Baltimore Oriole. He is restless and impulsive, but of a pleasant disposition, on good terms with his neighbors, and somewhat shy and difficult to observe closely, as he conceals himself in the densest foliage while at rest, or flies quickly about from twig to twig in search of insects, which, during the summer months, are his exclusive diet.

The favorite haunts of this very agreeable songster, as his name implies, are orchards, and when the apple and pear trees are in bloom, and the trees begin to put out their leaves, his notes have an ecstatic character quite the reverse of the mournful lament of the Baltimore species. Some writers speak of his song as confused, but others say this attribute does not apply to his tones, the musician detecting anything but confusion in the rapidity and distinctness of his gushing notes. These may be too

quick for the listener to follow, but there is harmony in them.

In the Central States hardly an orchard or a garden of any size can be found without these birds. They prefer to build their nests in apple trees. The nest is different, but quite as curiously made as that of the Baltimore. It is suspended from a small twig, often at the very extremity of the branches. The outer part of the nest is usually formed of long, tough grass, woven through with as much neatness and in as intricate a manner as if sewed with a needle. The nests are round, open at the top, about four inches broad and three deep.

It is admitted that few birds do more good and less harm than our Orchard Oriole, especially to the fruit grower. Most of his food consists of small beetles, plant lice, flies, hairless caterpillars, cabbage worms, grasshoppers, rose bugs, and larvæ of all kinds, while the few berries it may help itself to during the short time they last are many times paid for by the great number of insect pests destroyed, making it worthy the fullest protection.

The Orchard Oriole is very social, especially with the king bird. Most of his time is spent in trees. His flight is easy, swift, and graceful. The female lays from four to six eggs, one each day. She alone sits on the eggs, the male feeding her at intervals. Both parents are devoted to their young.

The fall migration begins in the latter part of July or the beginning of August, comparatively few remaining till September.



THE SANDHILL CRANE.

THE sandhill crane is so often confused, in the popular mind, with the great blue heron, that it may not be amiss to suggest the real differences between them. We should first remember that the crane is not found east of Illinois, except casually or accidentally, but is numerous from Illinois westward to the western border of the plains during the migrations. It ranges as far north as Manitoba. The great blue heron is pretty evenly distributed over the whole of North America. The cranes usually, if not always, migrate in greater or lesser flocks, alternately circling upward to considerable heights and sailing straight away, with both soaring and flapping motion, and with prodigious croakings. The herons migrate singly or in pairs, with long, steady sweep of the wings, and make no outcry. Close at hand the two species would hardly be confused by an ordinarily careful observer, but these large birds are rarely seen close at hand.

The feeding habits of the two birds are very similar, and to this superficial similarity is largely due the confusion, I suspect. Both wade into the water searching for some hapless frog or toad, often standing motionless for minutes at a time until the victim comes within range of the sharply-pointed beak, when a lightning-like movement of the head sends the beak completely through the creature, killing and catpuring it with one stroke. The long legs and neck are admirably adapted to this kind of fishing.

Colonel N. S. Goss describes the

courting antics of these ungainly birds as extremely ludicrous at times. A vertible Indian war dance, in fact, in which the females join heartily, and like the war dance, stopping only when the last participant falls down with exhaustion. It seems to be a sort of promiscuous wedding ceremony for the whole company.

The crane nests on the dry, flat prairie, usually scraping together some wisps of dry grass, but often with not even this poor excuse for a nest. Here two to four drab-brown colored, rough-shelled eggs are laid and the young reared.

Size seems to be the only criterion which determines what the crane may eat. Perhaps it might better be said, what he will swallow. He seems to relish stones, pocket-knives, steel nails and the like fully as well as the choicest bit of frog or toad. Like many other birds, however, he regurgitates the indigestible matter, and so takes no harm from this promiscuous diet. Many of us may have reason to envy him this capacity.

Dr. P. L. Hatch, in his "Birds of Minnesota," gives an interesting description of the fighting qualities of a pet crane which he offered to pit against any and all canines, one at a time. One valiant mastiff, which essayed to do battle with his craneship, entered the ring with all the confidence of an unbroken record of victories, but a moment later he "stayed not on the order of his going," carrying with him the exact pattern of the crane's beak. No other canines ever volunteered for a similar service.

THE CATBIRD.

What do you think of this nest of eggs? What do you suppose Mrs. Catbird's thoughts are as she looks at them so tenderly? Don't you think she was very kind to let me take the nest out of the hedge where I found it, so you could see the pretty greenish blue eggs? I shall place it back where I got it. Catbirds usually build their nests in hedges, briars, or bushes, so they are never very high from the ground.

Did you ever hear the Catbird sing? He is one of the sweetest singers and his song is something like his cousin's, the Brown Thrush, only not so loud.

He can imitate the songs of other birds and the sounds of many animals. He can *mew* like a cat, and it is for this reason that he is called "Catbird." His sweetest song, though, is soft and mellow and is sung at just such times as this—when think-

ing of the nest, the eggs, or the young.

The Catbird is a good neighbor among birds. If any other bird is in trouble of any sort, he will do all he can to relieve it. He will even feed and care for little birds whose parents have left them. Don't you think he ought to have a prettier name? Now remember, the Catbird is a Thrush. I want you to keep track of all the Thrushes as they appear in "BIRDS." I shall try to show you a Thrush each month.

Next month you shall see the sweetest singer of American birds. He, too, is a Thrush. I wonder if you know what bird I mean. Ask your mamma to buy you a book called "Bird Ways." It was written by a lady who spent years watching and studying birds. She tells so many cute things about the Catbird.

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BIRDS AND NATURE

ILLUSTRATED BY COLOR PHOTOGRAPHY.

THE BLACK-CAPPED CHICKADEE.

"Chic-chickadee dee!" I saucily say;
My heart it is sound, my throat it is gay!
Every one that I meet I merrily greet
With a chickadee dee, chickadee dee!
To cheer and to cherish, on roadside and street,
My cap was made jaunty, my note was made sweet.

Chickadeedee, Chickadeedee!
No bird of the winter so merry and free;
Yet sad is my heart, though my song one of glee,
For my mate ne'er shall hear my chickadeedee.

I "chickadeedee" in forest and glade,
"Day, day, day!" to the sweet country maid;
From autumn to spring time I utter my song
Of chickadeedee all the day long!
The silence of winter my note breaks in twain,
And I "chickadeedee" in sunshine and rain.

Chickadeedee Chickadeedee!
No bird of the winter so merry and free;
Yet sad is my heart, though my song one of glee,
For my mate ne'er shall hear my chickadeedee.—C. C. M.

A SAUCY little bird, so active and familiar, the Black-Capped Chickadee, is also recognized as the Black Capped Titmouse, Eastern Chickadee, and Northern Chickadee. He is found in the southern half of the eastern United States, north to or beyond forty degrees, west to eastern Texas and Indian Territory.

The favorite resorts of the Chickadee are timbered districts, especially in the bottom lands, and where there are red bud trees, in the soft wood of which it excavates with ease a hollow for its nest. It is often wise enough, however, to select a cavity already made, as the deserted hole of the Downy Woodpecker, a knot hole, or a hollow fence rail. In the winter season it is very familiar, and is seen about door yards and orchards, even in towns, gleaning its food from the kitchen remnants, where the table cloth is shaken, and wherever it may chance to find a kindly hospitality.

In an article on "Birds as Protectors of Orchards," Mr. E. H. Forbush says of the Chickadee: "There is no bird that compares with it in destroying the female canker-worm moths and their eggs." He calculated that one Chickadee in one day would destroy 5,550 eggs, and in the twenty-five days in which the canker-worm moths run or crawl up the trees 138,750 eggs. Mr. Forbush attracted Chickadees to

one orchard by feeding them in winter, and he says that in the following summer it was noticed that while trees in neighboring orchards were seriously damaged by canker-worms, and to a less degree by tent caterpillars, those in the orchard which had been frequented by the Chickadee during the winter and spring were not seriously infested, and that comparatively few of the worms and caterpillars were to be found there. His conclusion is that birds that eat eggs of insects are of the greatest value to the farmer, as they feed almost entirely on injurious insects and their eggs, and are present all winter, where other birds are absent.

The tiny nest of the Chickadee is made of all sorts of soft materials, such as wool, fur, feathers, and hair placed in holes in stumps of trees. Six to eight eggs are laid, which are white, thickly sprinkled with warm brown.

Mrs. Osgood Wright tells a pretty incident of the Chickadees, thus: "In the winter of 1891-2, when the cold was severe, the snow deep, and the tree trunks often covered with ice, the Chickadees repaired in flocks daily to the kennel of our old dog Colin and fed from his dish, hopping over his back and calling Chickadee, dee, dee, in his face, a proceeding that he never in the least resented, but seemed rather to enjoy it."

GINGER.

Zingiber officinale Roscoe.

DR. ALBERT SCHNEIDER,
Northwestern University School of Pharmacy.

"And ginger shall be hot i' the mouth, too."

—*Shakespeare, Twelfth Night, II., 3.*

THE well-known spice ginger is the underground stem (*rhizome*) of an herbaceous reed-like plant known as *Zingiber officinale*.

The rhizome is perennial, but the leaf and flower-bearing stems are annual. The stems are from three to six feet high. The leaves of the upper part of the stem are sword-shaped; the lower leaves are rudimentary and sheath-like. The flowers occur in the form of conical spikes borne upon the apex of stems which bear only sheath-like leaves.

The ginger-plant is said to be a native of southern Asia, although it is now rarely found growing wild. It is very extensively cultivated in the tropical countries of both hemispheres, particularly in southern China, India, Africa and Jamaica. The word ginger is said to have been derived from the Greek "Zingiber," which again was derived from the Arabian "Zindschabil," which means the "root from India." It is further stated that the word was derived from Gingi, a country west of Pondecheri where the plant is said to grow wild.

True ginger must not be confounded with "wild ginger," which is a small herbaceous plant (*Asarum canadense*) of the United States. The long, slender rhizomes of *Asarum* have a pungent,

aromatic taste similar to ginger. According to popular belief this plant has a peculiar charm. Friends provided with the leaves are enabled to converse with each other, though many miles apart and speaking in the faintest whisper.

The early Greeks and Romans made extensive use of ginger as a spice and as a medicine. During the third century it was apparently a very costly spice, but during the eleventh century it became cheaper, owing to extensive cultivation, and was quite generally used in Europe. Dioscrides and Plinius maintained that this spice was derived chiefly from Arabia. The noted traveler and historian, Marco Polo (1280-1290) is said to have been the first European who saw the wild-growing plant in its home in India. As early as the thirteenth century a considerable number of varieties of ginger were under cultivation, which received distinctive names as Beledi, Colombino, Gebeli, Deli, etc., usually named after the country or locality from which it was obtained.

At the present time Jamaica supplies the United States with nearly all of the ginger, and this island is, therefore, known as "the land of ginger." Cochin-China and Africa also yield much ginger.



GINGER.

THE DOWNY WOODPECKER

Every leaf was at rest, and I heard not a sound,
Save a Wood-drummer tapping on a hollow beech tree.

THIS little Woodpecker is the smallest of all those inhabiting the United States. In the shade trees about houses and parks, and especially in orchards, he may be frequently seen tapping or scratching on the limb of a tree within two or three yards' distance, where he has discovered a decayed spot inhabited by wood-boring larvae or a colony of ants, his food consisting of ants, beetles, bugs, flies, caterpillars, spiders, and grasshoppers. The late Dr. Glover of the Department of Agriculture, states that on one occasion a Downy Woodpecker was observed by him making a number of small, rough-edged perforations in the bark of a young ash tree, and upon examination of the tree when the bird had flown, it was found that wherever the bark had been injured, the young larvae of a wood-eating beetle had been snugly coiled underneath and had been destroyed by the bird. Beechnuts also constitute a considerable portion of the food of this bird. Dr. Merriam says that in northern New York they feed extensively on this nut, particularly in fall, winter, and early spring.

This miniature Woodpecker is very social in its habits, far more so than other species, and is often found associated with other birds, in the woods, the orchards, along fence rows, and not infrequently in the cities. He is often seen in company with the White-breasted Nuthatch (See Vol. II, p. 118) and the Brown Creeper (Vol. III, p. 214).

Early in the spring the "Downies" retire to the woods to make their nests, preferring the vicinity of running water. The nest is begun about the

second or third week in May, and consumes from two days to a week in building. The holes are usually excavated in dead willow, poplar, or oak trees, and the height varies from four to thirty feet, generally about fifteen feet. The entrance to the nest is about two inches in diameter, and the depth of the nest hole varies from eight to eighteen inches. The eggs are four or five, rarely six, and are pure glossy-white.

We know of no more interesting occupation than to observe this bird. It is fond of drumming on the stub of a dead limb whose center is hollow, and whose shell is hard and resonant. Upon such places it will drum for an hour at a time, now and then stopping to listen for a response from its mate or of some rival. At all times it is unsuspicious of man, and when engaged in excavating the receptacle for its nest it continues its busy chiseling, unheeding his near approach.

The Woopecker is wrongfully accused of boring into the sound timber, and, by letting in the water, hastening its decay. As Dixon says: "Alas! poor harmless, unoffending Woodpecker, I fear that by thy visits to the trees thou art set down as the cause of their premature decay. Full well I know thy beak, strong as it is, is totally incapable of boring into the sound timber—full well do I know that, even if thou wert guilty of such offense, nothing would reward thy labors, for thy prey does not lurk under the bark of a healthy tree. Insects innumerable bore through its bark and hasten its doom, and it is thy duty in Nature's economy to check them in their disastrous progress."

THE PROTHONTARY, OR GOLDEN SWAMP WARBLER.

THE Golden Swamp Warbler is one of the very handsomest of American birds, being noted for the pureness and mellowness of its plumage. Baird notes that the habits of this beautiful and interesting warbler were formerly little known, its geographical distribution being somewhat irregular and over a narrow range. It is found in the West Indies and Central America as a migrant, and in the southern region of the United States. Further west the range widens, and it appears as far north as Kansas, Central Illinois, and Missouri.

Its favorite resorts are creeks and lagoons overshadowed by large trees, as well as the borders of sheets of water and the interiors of forests. It returns early in March to the Southern states, but to Kentucky not before the last of April, leaving in October. A single brood only is raised in a season.

A very pretty nest is sometimes built within a Woodpecker's hole in a stump of a tree, not more than three feet high. Where this occurs the nest is not shaped round, but is made to conform to the irregular cavity of the stump. This cavity is deepest at one end, and the nest is closely packed with dried leaves, broken bits of grasses, stems, mosses, decayed wood, and other material, the upper part interwoven with fine roots, varying in size, but all strong, wiry, and slender, and lined with hair.

Other nests have been discovered which were circular in shape. In one

instance the nest was built in a brace hole in a mill, where the birds could be watched closely as they carried in the materials. They were not alarmed by the presence of the observer but seemed quite tame.

So far from being noisy and vociferous, Mr. Ridgway describes it as one of the most silent of all the warblers, while Mr. W. Brewster maintains that in restlessness few birds equal this species. Not a nook or corner of his domain but is repeatedly visited during the day. "Now he sings a few times from the top of some tall willow that leans out over the stream, sitting motionless among the marsh foliage, fully aware, perhaps, of the protection afforded by his harmonizing tints. The next moment he descends to the cool shadows beneath, where dark, coffee-colored waters, the overflow of a pond or river, stretch back among the trees. Here he loves to hop about the floating drift-wood, wet by the lapping of pulsating wavelets, now following up some long, inclining, half submerged log, peeping into every crevice and occasionally dragging forth from its concealment a spider or small beetle, turning alternately its bright yellow breast and olive back towards the light; now jetting his beautiful tail, or quivering his wings tremulously, he darts off into some thicket in response to a call from his mate; or, flying to a neighboring tree trunk, clings for a moment against the mossy hole to pipe his little strain, or look up the exact whereabouts of some suspected insect prize."



CRAB EATING OPOSSUM.
♂ Life-size.

THE CRAB-EATING OPOSSUM.

THE crab-eating opossum (*Phlander philander*) is one of the largest of the family. The body is nine and one-half inches long, and the tail nearly thirteen inches. It has a wide range, extending throughout all of tropical America. It is numerous in the woods of Brazil, preferring the proximity of swamps, which furnish it with crabs. It lives almost exclusively in trees, and descends to the ground only when it wishes to forage.

While it proceeds slowly and awkwardly on the ground, its prehensile tail enables it to climb trees with some facility. This opossum readily entraps smaller mammals, reptiles, and insects, and especially crabs, which are its favorite food. It preys upon birds and their nests, but it also eats fruit, and is said to visit poultry yards and to cause great devastation among chickens and pigeons.

The young of the crab-eating opossum differ in color from the old animals. They are completely naked at birth, but when they are sufficiently developed to leave the pouch, they grow a short, silky fur of a shining nut-brown color, which gradually deepens into the dark brownish-black color of maturity. All observers agree that the little creatures escape from the pouch and, moving around and upon the mother's body, afford a charming spectacle. The pouch is formed by two folds of skin, which are laid over the unformed young attached to the mammae.

The opossum is extensively hunted on account of the havoc it works among poultry.

The negroes are its enemies, and kill it whenever and wherever they can. The flesh is said to be unpalatable to most white persons, for two glands impart a very strong and repellent odor of garlic to it, but the negroes like it, and the flesh repays them for the trouble of the pursuit. The opossum, however, is not easily killed, and resorts to dissimulation when hard pressed, rolls up like a ball, and feigns to be dead. To anyone

not acquainted with its habits, the open jaws, the extended tongue, the dimmed eyes would be ample confirmation of it, but the experienced observer knows that it is only "possuming," and that it will gradually get on its legs and make for the woods.

It is said that the opossum was formerly found in Europe, but now only inhabits America. Nearly all of the species live in the forest or in the underbrush, making their homes in hollow trees, holes in the ground, among thick grass and in bushes. All are nocturnal in their habits and lead a solitary, roving life. The opossum lives with its mate only during the pairing time. It has no fixed habitation. In captivity it is the least interesting of animals. Rolled up and motionless, it lies all day, and only when provoked does it make the slightest movement. It opens its mouth as wide as possible, and for as long a time as one stands before it, as if it suffered from lockjaw.

The opossum can hardly be classed among the game animals of America, yet its pursuit in the South in old plantation days used to afford the staple amusement for the dusky toilers of the cotton states. It was the custom, as often as the late fall days brought with them the ripened fruit and golden grain, for the dark population of the plantation, sometimes accompanied by young "massa," to have a grand 'possum hunt *a la mode*. We would describe the method of taking it, were it the policy of this magazine to show approval of a most cruel practice. Happily the custom, through change of circumstances, has fallen into disuse.

The specimen of this interesting animal which we present in this number of BIRDS AND ALL NATURE was captured, with its mother and five young ones, in a car load of bananas having traveled all the way from the tropics to Chicago in a crate of the fruit. The mother and young were kept alive by eating the bananas, another proof that the crab-eating opossum does not feed exclusively upon animal food.

THE GEOGRAPHIC TURTLE.

M AP and mud-turtle (*Malaclemmys geographicus*) are the more common names by which this animal is known; and as it is a characteristic species of the waters of Illinois and occurs in countless numbers in lakes, rivers, and flood-ground pools, it may be assumed that most of our readers have met with it. It is exceedingly common in the Illinois and Mississippi rivers, where it is often confounded with quite another species. It is the only species seen by Mr. F. M. Woodruff on the shores of Lake Michigan, whence he has frequently chased it to the water and caught it in his hands. It is timid and inoffensive in disposition, always sliding from bank or log when approached, and even when captured shows none of the ferocity of the snapper. The great strength of its jaws, unsurpassed in massiveness by any of our turtles, would enable it to inflict serious wounds, and it is not a little surprising to find such efficient weapons of offense unaccompanied by special ruggedness of temper. Our streams and lakes, with their numerous sandy shores, and their abundance of animal and vegetable life, would seem to form an ideal habitat for these reptiles. Their food consists ordinarily of fishes, frogs, and mollusks, crayfishes, aquatic insects, and vegetation. They trouble fishermen at times by devouring fishes which they have caught on trot-lines or in set nets. They are not rapid swimmers. An animal once within reach of their jaws must be very quick to escape capture. The eggs are white and are provided with a rather tough shell. They bury their eggs in sand on the shore and leave them to hatch by the sun's heat.

A gentleman who had a pet turtle which he kept in a tank tells some interesting things about its appetite. During the early spring he fed him on bits

of meat, either raw or cooked. Having no teeth, he swallowed these whole, gulping them down with large quantities of water. Outside of his tank he would carry food in his mouth for hours at a time, but apparently was unable to swallow it with his head out of water. He always aimed well, and snapped up bits of meat as carefully and as quickly as if they had been bits of life that might escape him. When a morsel was too large to be swallowed whole, he held it down firmly with his fore feet and pulled bits off with his mouth. His owner once gave him a fish so large that it took him three hours to eat it, and in all that time he never moved his foot. Rival turtles and swift currents had probably taught him this bit of discretion in the days of his freedom. One time he put twenty small fish averaging three inches in length into his tank, thinking this would be a treat for him and would save the trouble of feeding him for some time. A treat he evidently considered it, for within half an hour he had disposed of the entire lot. This excited the admiration of the gentleman's boy friends, and the next day they brought in sixty small fish. At the end of the second day the turtle looked about with an Oliver Twist-like air, which plainly called for more. When there was any perceptible difference in the size of the fish it always ate the largest one first. It ate grasshoppers and dragon-flies, tadpoles, and little frogs—animal food of any kind. It would eat eggs as readily as meat. This voracity of appetite accounts for much of the destruction of young fish life in our lakes and streams, where these turtles are extremely abundant.

In the Philippines, it is said there lives a turtle that climbs trees. The feet are strongly webbed, and each has three sharp claws.



THE NEW TENANTS.

BY ELANORA KINSLEY MARBLE.

Mr. Wren had no need to inquire the cause of his mate's distress, for at this moment a loud and vehement *Jay-jay-jay*, resounded from an adjacent tree.

"Ha!" said he, "it is that villian Mr. Blue Jay at last. I have been expecting a call from him for some time. I heard yesterday that he was caught sucking the eggs of Mrs. Red-eyed Vireo, and that Mrs. Dove was mourning more than usual because out of four beautiful eggs she had only one left. But never you mind, my dear, never you mind! He daren't go near our nest you see, for Bridget is out there with her broom, and if he should dare attack us, why——"

"Well!" chirped Mrs. Wren, who at once saw the force of his reasoning, "what would you do, Mr. Wren, should he attack us? I'd like to know because I am quite sure what dear papa would have done under the circumstances."

"So am I," responded Mr. Wren with a chuckle, "so am I."

"So are you—what?" retorted Mrs. Wren, angrily tapping the perch on which she sat with her foot.

"Sure what your dear papa would have done, my dear, under the circumstances. Ha, ha, ha!" and Mr. Wren flirted his tail over his head and hopped about in anything but a dignified or warrior-like manner.

Mrs. Wren surveyed him with contempt and surprise.

"Of all the ex-as-per-at-ing creatures," she said, "you are the worst. First you whispered and bid me be silent, and now just look at you hopping about and jibbering like an idiot! I wish Mr. Blue Jay *would* come over here and——"

"Come over here?" Mr. Wren almost turned a somersault in his glee. "Come over here, my dear! Not much! Don't you see that King-bird over there with his eye on Mr. Jay! There's going to be a fight, a real knock-down, feather-pulling fight, and I—*I won't be in it!*" and Mr. Wren whistled and chattered and flirted his tail in a greatly relieved and truly funny manner.

"If I wasn't so anxious about the eggs," said Mrs. Wren, "I'd stay here and see the fight, too. They are well matched, both such fine, handsome birds—especially Mr. Jay. Ah, how it does all remind me of dear papa."

Mr. Wren could have laughed aloud when he thought of her plain, crooked-legged little father, but he only sniffed and said something about Mr. Jay being a saucy, impudent dude.

"But really, now, he is handsome," repeated Mrs. Wren, "only see how his head feathers stand up! My, how angry they both are. What can be the matter, I wonder?"

"If you will stop talking for a minute," returned Mr. Wren, "perhaps we can hear.

THE BROWN THRUSH.

"However the world goes ill,
The Thrushes still sing in it."

THE Mocking-bird of the North, as the Brown Thrush has been called, arrives in the Eastern and Middle States about the 10th of May, at which season he may be seen, perched on the highest twig of a hedge, or on the topmost branch of a tree, singing his loud and welcome song, that may be heard a distance of half a mile. The favorite haunt of the Brown Thrush, however, is amongst the bright and glossy foliage of the evergreens. "There they delight to hide, although not so shy and retiring as the Black-bird; there they build their nests in greatest numbers, amongst the perennial foliage, and there they draw at nightfall to repose in warmth and safety." The Brown Thrasher sings chiefly just after sunrise and before sunset, but may be heard singing at intervals during the day. His food consists of wild fruits, such as blackberries and raspberries, snails, worms, slugs and grubs. He also obtains

much of his food amongst the withered leaves and marshy places of the woods and shrubberies which he frequents. Few birds possess a more varied melody. His notes are almost endless in variety, each note seemingly uttered at the caprice of the bird, without any perceptible approach to order.

The site of the Thrush's nest is a varied one, in the hedgerows, under a fallen tree or fence-rail; far up in the branches of stately trees, or amongst the ivy growing up their trunks. The nest is composed of the small dead twigs of trees, lined with the fine fibers of roots. From three to five eggs are deposited, and are hatched in about twelve days. They have a greenish background, thickly spotted with light brown, giving the whole egg a brownish appearance.

The Brown Thrush leaves the Eastern and Middle States, on his migration South, late in September, remaining until the following May.

THE THRUSH'S NEST.

"Within a thick and spreading hawthorn bush
That overhung a molehill, large and round,
I heard from morn to morn a merry thrush
Sing hymns of rapture while I drank the sound.
With joy—and oft an unintruding guest,
I watched her secret toils from day to day ;
How true she warped the moss to form her nest,
And modeled it within with wood and clay.
And by and by, with heath-bells gilt with dew,
There lay her shining eggs as bright as flowers,
Ink-spotted over, shells of green and blue :
And there I witnessed, in the summer hours.
A brood of nature's minstrels chirp and fly,
Glad as the sunshine and the laughing sky."



WHITE IBIS.
♂ Life-size.

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THE WHITE IBIS.

(*Guara alba*.)

LYNDS JONES.

THE white ibis might well serve as the text of a symposium upon the evils of plume-hunting to supply the constant demand of the millinery trade. Suffice it to say here that this species, in common with many other members of its family, and many other birds as well, has decreased to the point of almost complete extermination within the last fifteen years from this cause alone. Surely it must be true that the living bird in its natural environment is far more pleasing to the æsthetic sense than the few feathers which are retained and put to an unnatural use.

As lately as 1880 the white ibis was decidedly numerous in the various rookeries of the southern states, wandering as far north as the Ohio river, and touching southern Indiana and southern Illinois. Two were seen as far north as southern South Dakota. They are now scarcely common even in the most favored localities in Louisiana and Texas, being confined to the gulf states almost entirely, and even there greatly restricted locally.

Like many of their near relatives, the herons, the ibises not only roost together in rookeries, but they also nest in greater or less communities. Before their ranks were so painfully thinned by the plume-hunters, these nesting communities contained hundreds and even thousands of individuals. But now only small companies can be found in out-of-the-way places.

The nest is built upon the mangrove bushes or upon the broken reeds and rushes in the swamps, and is said to be rather more carefully and compactly built than are the herons' nests. The eggs are three or four, rarely five in

number, and are laid about May 1 in many localities, later in others. They appear large for the bird. In shape they are usually rather long ovate, and in color are gray or ashy-blue, irregularly and rather heavily blotched and spotted with reddish and umber browns of various shades. Some specimens are very pretty.

The story of their great abundance, persecution, rapid decline, and almost death, if written, would read like some horrible nightmare. Confident in the apparent security of their ancestral gathering-places, they fell an easy prey to the avaricious plume-hunter who, from some vantage point, used his almost noiseless light rifle or air-gun with deadly effect, tallying his victims by the hundred daily. We are sometimes led to wonder if there is anything so sacred as money.

We might be able to derive some comfort from the thinning ranks of many of our birds, perhaps, if we could be sure that when these were gone the work of extermination would cease. But when one species disappears another, less attractive before, will be set upon, and thus the crusade, once begun, will finally extend to each in turn. This is not theory but fact. Nor will the work of extermination cease with the demand for plumes. Not until repeated refusals of offered plumes have impressed upon the mind of the hunter the utter futility of further activity in this line will he seek some other occupation. It is a shame upon us that killing birds should ever have become an occupation of anyone. A strong public sentiment against feather adornments will yet save from destruction many of our native birds. Can we not arouse it?

ONE AUDUBON SOCIETY.

FIVE HUNDRED invitations were sent out for a novel reception by the Wisconsin Audubon Society a while ago.

One of the directors lent a large, handsome house, and six milliners were invited to send hats unadorned with aigrettes or birds. Ostrich plumes, quills and cock's-tails were not disbarred. Twenty-five other milliners applied for space, "everybody" went, and a great many tastefully trimmed hats were sold. People who had never before heard of the Audubon Society became, through the newspaper reports of the affair, greatly interested in its object, and the society itself greatly encouraged through the fact that by their hats and bonnets many of the "best" people of Milwaukee were ready to proclaim it no longer good form to wear the plumes or bodies of wild birds.

"Certificates of heartlessness," a writer in *Our Dumb Animals* calls them and we know of no better appellation to apply. Women of fashion, says the same writer, have been urged to use the power which they possess—and it is a power greater than that of law—to bring this inhumanity to an instant stop. The appeals for the most part were in vain. Birds continue to be slaughtered by millions upon millions, simply for the gratification of a silly vanity of which intelligent women should be ashamed. Whole species of the most beautiful denizens of field and forest, woodland and shore, have been almost or quite exterminated.

Song birds have been driven further and further from the dwellings of men; our country is stripped of one of its least costly and most charming delights and all that women may deck themselves in conformity with a fad.

A bill for the protection of birds was passed on March 24, by the Senate of the United States, introduced into the House of Representatives on March 25, and referred to the Committee on Agriculture. It is entitled "An Act for the Protection of Song Birds."

We confess, says the same writer, to a feeling of humiliation when reading this bill, because it seems a just indictment of the women of America on a charge of willful, wanton, reckless inhumanity. That such legislation should be made necessary, through vanity alone, ought in our estimation, to bring the blush of shame to every good woman's cheek.

"I didn't think," is the usual reply of the fair sex, when approached on the subject. "I didn't think." Aye you didn't think, but that plea can no longer avail when press and pulpit, in the name of humanity, so earnestly and eloquently plead with you to spare the birds.

If compassion for the little creature whose life went out in agony, to supply that ornament above your brow does not move you to abstain from wearing such in the future, then the knowledge that some of the "best" people in the country consider it "bad form," perhaps will. —E. K. M.

The lady has surely a beautiful face,
She has surely a queenly air;
The bonnet had flowers and ribbon and lace;
But the bird has added the crowning grace—
It is really a charming affair.

Is the love of a bonnet supreme over all,
In a lady so faultlessly fair?
The Father takes heed when the Sparrows fall,
He hears when the starving nestlings call—
Can a tender woman not care?
—SUSAN E. GAMMONS, *Our Dumb Animals*.

THE SWALLOW.

"Come, summer visitant, attach
To my reedroof thy nest of clay,
And let my ear thy music catch,
Low twitting underneath the thatch,
At the gray dawn of day."

SURE harbingers of spring are the Swallows. They are very common birds, and frequent, as a rule, the cultivated lands in the neighborhood of water, showing a decided preference for the habitations of man. "How gracefully the swallows fly! See them coursing over the daisy-bespangled grass fields; now they skim just over the blades of grass, and then with a rapid stroke of their long wings mount into the air and come hovering above your head, displaying their rich white and chestnut plumage to perfection. Now they chase each other for very joyfulness, uttering their sharp twittering notes; then they hover with expanded wings like miniature Kestrels, or dart downwards with the velocity of the sparrowhawk; anon they flit rapidly over the neighboring pool, occasionally dipping themselves in its calm and placid waters, and leaving a long train of rings marking their varied course. How easily they turn, or glide over the surrounding hedges, never resting, never weary, and defying the eye to trace them in the infinite turnings and twistings of their rapid shooting flight. You frequently see them glide rapidly near the ground, and then with a side-long motion mount aloft, to dart downwards like an animated meteor, their plumage glowing in the light with metallic splendor, and the row of white spots on the tail contrasting beautifully with the darker plumage."

The Swallow is considered a life-paired species, and returns to its nesting site of the previous season, building a new nest close to the old one. His nest is found in barns and out-

houses, upon the beams of wood which support the roof, or in any place which assures protection to the young birds. It is cup-shaped and artfully moulded of bits of mud. Grass and feathers are used for the lining. "The nest completed, five or six eggs are deposited. They are of a pure white color, with deep rich brown blotches and spots, notably at the larger end, round which they often form a zone or belt." The sitting bird is fed by her mate.

The young Swallow is distinguished from the mature birds by the absence of the elongated tail feathers, which are a mark of maturity alone. His food is composed entirely of insects. Swallows are on the wing fully sixteen hours, and the greater part of the time making terrible havoc amongst the millions of insects which infest the air. It is said that when the Swallow is seen flying high in the heavens, it is a never failing indication of fine weather.

A pair of Swallows on arriving at their nesting place of the preceding Summer found their nest occupied by a Sparrow, who kept the poor birds at a distance by pecking at them with his strong beak whenever they attempted to dislodge him. Wearied and hopeless of regaining possession of their property, they at last hit upon a plan which effectually punished the intruder. One morning they appeared with a few more Swallows—their mouths filled with a supply of tempered clay—and, by their joint efforts in a short time actually plastered up the entrance to the hole, thus barring the Sparrow from the home which he had stolen from the Swallows.

THE IRIS.

IN botany this is the generic name of a number of beautiful plants belonging to the natural order of *Iridaceæ*.

The plants have a creeping rootstock, or else a flat tuber, equitant leaves, irregular flowers, and three stamens. They are represented equally in the temperate and hotter regions of the globe. The wild species of iris are generally called blue-flag and the cultivated flower-de-luce, from the French *fleur de Louis*, it having been the device of Louis VII, of France. Our commonest blue-flag, *iris versicolor*, is a widely distributed plant, its violet-blue flowers, as may be seen upon stems one to three feet high, being conspicuous in wet places in early summer. The root of this possesses cathartic and diuretic properties, and is used by some medical practitioners. The slender blue-flag found in similar localities near the Atlantic coast, is smaller in all its parts. A yellowish or reddish-brown species, resembling the first named in appearance, is found in Illinois and southward. There are three native species which grow only about six inches high and have blue flowers. They are found in Virginia and southward, and on the shores of the great lakes; these are sometimes seen as garden plants. The orris root of commerce is the product of *Iris Florentina*, *I. pallida*,

and *I. Germanica*, which grow wild in the south of Europe; the rhizomes are pared and dried, and exported from Trieste and Leghorn, chiefly for the use of perfumers; they have the odor of violets. The garden species of iris are numerous, and by crossing have produced a great many known only by garden names. The dwarf iris, *I. pumila*, from three to six inches high, flowers very early and makes good edgings to borders; the common flower-de-luce of the gardens is *I. Germanica*; the elder-scented flower-de-luce is *I. sambucina*. These and many others are hardy in our climate, and readily multiplied by division of their rootstocks. The mourning or crape iris is one of the finest of the genus, its flowers being very large, dotted and striped with purple on a gray ground. The flowers of most of the species are beautiful. Some of them have received much attention from florists, particularly the Spanish, English, and German, or common iris, all corn-rooted species and all European. The Persian iris is delightfully fragrant. The roots of all these species are annually exported in considerable quantities from Holland. The roasted seeds of one species have been used as a substitute for coffee.



THE OWL.

We know not alway
Who are kings by day,
But the king of the night is the bold brown owl!

I wonder why the folks put my picture last in the book. It can't be because they don't like me, for I'm sure I never bother them. I don't eat the farmer's corn like the crow, and no one ever saw me quarrel with other birds.

Maybe it is because I can't sing. Well, there are lots of good people that can't sing, and so there are lots of good birds that can't sing.

Did you ever see any other bird sit up as straight as I do? I couldn't sit up so straight if I hadn't such long, sharp claws to hold on with.

My home is in the woods. Here we owls build our nests—most always in hollow trees.

During the day I stay in the nest or sit on a limb. I don't like day time for the light hurts my eyes, but when it begins to grow dark then I like to stir around. All night long I am

wide awake and fly about getting food for my little hungry ones. They sleep most of the day and it keeps me busy nearly all night to find them enough to eat.

I just finished my night's work when the man came to take my picture. It was getting light and I told him to go to a large stump on the edge of the woods and I would sit for my picture. So here I am. Don't you think I look wise? How do you like my large eyes? If I could smile at you I would, but my face always looks sober. I have a great many cousins and if you really like my picture, I'll have some of them talk to you next month. I don't think any of them have such pretty feathers though. Just see if they have when they come.

Well, I must fly back to my perch in the old elm tree. Good-bye.

THE SCISSOR-TAILED FLYCATCHER

FLYCATCHERS are all interesting, and many of them are beautiful, but the Scissor-tailed species of Texas is especially attractive. They are also known as the Swallow-tailed Flycatcher, and more frequently as the "Texan Bird of Paradise." It is a common summer resident throughout the greater portion of that state and the Indian Territory, and its breeding range extends northward into Southern Kansas. Occasionally it is found in southwestern Missouri, western Arkansas, and Illinois. It is accidental in the New England states, the Northwest Territory, and Canada. It arrives about the middle of March and returns to its winter home in Central America in October. Some of the birds remain in the vicinity of Galveston throughout the year, moving about in small flocks.

There is no denying that the gracefulness of the Scissor-tailed Flycatcher should well entitle him to the admiration of bird-lovers, and he is certain to be noticed wherever he goes. The long outer tail feathers he can open and close at will. His appearance is most pleasing to the eye when fluttering slowly from tree to tree on the rather open prairie, uttering his twittering notes, "Spee-spee." When chasing each other in play or anger these birds have a harsh note like "Thish-thish," not altogether agreeable. Extensive timber land is shunned by this Flycatcher, as it prefers more open country, though it is often seen in the edges of woods. It is not often seen on the ground, where its movements are rather awkward. Its amiability and social disposition are observed in the fact that several pairs will breed close to each other in

perfect harmony. Birds smaller than itself are rarely molested by it, but it boldly attacks birds of prey. It is a restless bird, constantly on the lookout for passing insects, nearly all of which are caught on the wing and carried to a perch to be eaten. It eats moths, butterflies, beetles, grasshoppers, locusts, cotton worms, and, to some extent, berries. Its usefulness cannot be doubted. According to Major Bendire, these charming creatures seem to be steadily increasing in numbers, being far more common in many parts of Texas, where they are a matter of pride with the people, than they were twenty years ago.

The Scissor-tails begin housekeeping some time after their arrival from Central America, courting and love making occupying much time before the nest is built. They are not hard to please in the selection of a suitable nesting place, almost any tree standing alone being selected rather than a secluded situation. The nest is bulky, commonly resting on an exposed limb, and is made of any material that may be at hand. They nest in oaks, mesquite, honey locust, mulberry, pecan, and magnolia trees, as well as in small thorny shrubs, from five to forty feet from the ground. Rarely molested they become quite tame. Two broods are often raised. The eggs are usually five. They are hatched by the female in twelve days, while the male protects the nest from suspicious intruders. The young are fed entirely on insects and are able to leave the nest in two weeks. The eggs are clear white, with markings of brown, purple, and lavender spots and blotches.



THE DUCK MOLE.

WE ARE indebted to Dr. George Bennett for the first good description of the duck mole (*Ornithorhynchus anatinus*)

which was an object of wonder to naturalists long after its discovery. This enthusiastic investigator traveled to Australia for the sole purpose of observing the animal. Up to that time little was known of it. We simply knew that the duck mole lives in the water and was persistently hunted by the natives as it yielded a savory flesh and laid eggs. The latter discovery was made by Caldwell in 1884.

The duck mole is about two feet in length, six inches of which are included in the tail. The males are larger than the females. The legs are very small, all four being five-toed and webbed. All the toes are very strong, blunt, and excellently adapted for digging. The middle toes are the longest. The tail is flat and is broad at the end, the extremity being formed by long hairs. It is abruptly cut off, and in old animals is either entirely naked beneath or covered with a few coarse hairs. In young animals it is quite hairy. The adult animal has only four horny teeth in its two jaws, of which the upper front tooth is broad and flat and resembles a grinder.

The fur of the duck mole consists of a coarse outer coat of a dark brown color with a silvery-white surface tinge, and a

very soft, grayish inner fur, similar to that of the seal and the otter. A peculiar fish-like odor is given forth by the fur, especially when it is wet. The Australians, however, are very fond of the flesh of the animal in spite of its disgusting odor. The duck mole is said to be fondest of calm spots in rivers filled with aquatic plants and the banks of which are shaded by the dense foliage of trees; and it constructs more or less complicated burrows in the banks. A tunnel about eighteen feet long terminates in a large chamber, both the chamber and its approaches being strewn with dry aquatic plants. The chamber usually has two entrances, one below the surface of the water and the other about twelve inches above.

The duck moles are seen at all times in the rivers of Australia, especially during the spring and summer. They emerge from their retreats at dusk, though they sometimes also appear in the day time, searching for food. When the water is clear, the observer can follow with the eye the movements of the animal as it dives and reappears above the surface. It likes to stay near the shore, amidst the mud searching for its food between the roots of the plants, where insects abound. The mollusks which it captures in its forays it stores temporarily in its cheek pouches and then consumes them at greater leisure.

THE CAPE MAY WARBLER.

(*Dendroica tigrina*.)

LYNDS JONES.

THERE is hardly another group of birds that yields so satisfactory returns for earnest study as the American wood warblers. All shades and patterns of colors are theirs, from somber to brilliant, from the plainest to the most intricate and exquisite pattern. Almost all degrees of vocal ability are found among them, from the simple twitter of the Tennessee to the wild thrilling challenge of the Louisiana water thrush or the ventriloquial antics of the yellow-breasted chat. Many bird students, it is true, regard the group as too difficult for any but the professional ornithologist to attempt; and that may be true of the females and of the autumnal plumages of the young, but the spring males are a constant inspiration and delight to one who admires variety in beauty.

It may be objected that the small size of the warblers renders their field study difficult, even if the foliage does not prove a serious hindrance. One must remember, however, that most small birds are not wary and that they may be closely approached, so that, with a good field-glass (and every bird-student should use one) their colors and the pattern of their dress can readily be made out even in the lower tree tops, where many of them feed. Foliage is always in the way, but even that can be circumvented by patience and perseverance.

The study of adult males in spring is greatly aided by the fact that each species, with some exceptions, has one or more patches of color peculiar to itself. Thus in the Cape May warbler the ear patches are rufous. Other species possess rufous colors, but none of them in this place.

The Cape May warbler belongs among the less common species, but may be common for a day or two during the

height of the migration. It is very fond of orchards, where it feeds among the foliage, snatching an insect here, a larva there, and cleaning the bundle of eggs from the leaf over yonder with an untiring energy. They also associate more or less with the other warblers in the woods. They are of great value to the fruit grower.

This species is found from the Atlantic coast west to the plains and north to Hudson's Bay, passing the winter in the tropics. It breeds from northern New England to Hudson's Bay and probably in northern Minnesota. The nest is built in a low bush in a wooded pasture or open woodland, said to be partially pensile. The nest and eggs are not readily distinguishable from those of several other warblers. The males sing frequently from their perch on the topmost twig of a spruce tree, thus misleading one as to the whereabouts of the female and nest. The song resembles somewhat that of the black and white warbler, but is rather less wiry. It cannot to be represented on paper.

The tongue of this bird is worthy of special notice. It is cleft at the tip, and is provided with somewhat of a fringe. This character is not peculiar to this species, but is found in some honey creepers and in at least one foreign family of birds, thus suggesting, at least, the relationship of the warblers as a group. It might be asked, what is the significance of this character as regards feeding-habits? Apparently nothing, since the feeding-habits and food do not differ from those of other warblers not having the cleft tongue as greatly as the tongues themselves differ in structure. It is apparently aberrant character developed somewhat at random among groups nearly related, or perhaps a remnant of structure.



CAPE MAY WARBLER
(*Dendroica tigrina*).
Life size.

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THE HOUSE WREN.

All the children, it seems to me, are familiar with the habits of Johnny and Jenny Wren; and many of them, especially such as have had some experience with country life, could themselves tell a story of these mites of birds. Mr. F. Saunders tells one: "Perhaps you may think the Wren is so small a bird he cannot sing much of a song, but he can. The way we first began to notice him was by seeing our pet cat jumping about the yard, dodging first one way and then another, then darting up a tree; looking surprised, and disappointingly jumping down again.

"Pussy had found a new play-mate, for the little Wren evidently thought it great fun to fly down just in front of her and dart away before she could reach him, leading her from one spot to another, hovering above her head, chattering to her all the time, and at last flying up far out of her reach. This he repeated day after day, for some time, seeming to enjoy the fun of disappointing her so nicely and easily. But after a while the little fellow thought he would like a play-mate nearer his own size, and went off to find one. But he came back all

alone, and perched himself on the very tip-top of a lightning-rod on a high barn at the back of the yard; and there he would sing his sweet little trilling song, hour after hour, hardly stopping long enough to find food for his meals. We wondered that he did not grow tired of it. For about a week we watched him closely, and one day I came running into the house to tell the rest of the family with surprise and delight that our little Wren knew what he was about, for with his winning song he had called a mate to him. He led her to the tree where he had played with pussy, and they began building a nest; but pussy watched then as well as we, and meant to have her revenge upon him yet, so she sprang into the tree, tore the nest to pieces, and tried to catch Jenny. The birds rebuilt their nest three times, and finally we came to their rescue and placed a box in a safe place under the eaves of the house, and Mr. Wren with his keen, shrewd eyes, soon saw and appropriated it. There they stayed and raised a pretty family of birdies; and I hope he taught them, as he did me, a lesson in perseverance I'll never forget."

THE CANADA JAY.

I don't believe I shall let this bird talk to you, boys and girls, for I'm afraid he will not tell you what a funny fellow he is. Isn't he a queer looking bird? See how ruffled up his feathers are. He looks as though he forgot to fix up, just as some little boys forget to comb their hair before going to school.

Well, to tell the truth, he is a very careless bird and does very funny things sometimes. He can't be trusted.

Just listen to some of the names that people give him—"Meat Bird," "Camp Robber." I think you can guess why he is called those names.

Hunters say that he is the boldest of birds, and I think they are right, for what bird would dare to go right into a tent and carry off things to eat.

A hunter thought he would play a joke on one of these birds. He had a small paper sack of crackers in the bottom

of his boat. The Jay flew down, helped himself to a cracker and flew away with it to his nest. While he was gone the hunter tied up the mouth of the bag.

In a few moments the Jay was back for more. When he saw he could not get into the bag, he just picked it up and carried it off. The joke was on the hunter after all. Look at him. Doesn't he look bold enough to do such a trick?

Look back at your February number of "BIRDS" and see if he is anything like the Blue Jay.

He is not afraid of the snow and often times he and his mate have built their nest, and the eggs are laid while there is still snow on the ground. Do you know of any other birds who build their nests so early?

There is one thing about this bird which we all admire—he is always busy, never idle; so we will forgive him for his funny tricks.



THE COCOA-NUT.

THE fruit of the cocoa-nut palm, (*Cocos nucifera*), which is the most useful tree of all its tribe to the natives of the regions in which it grows, is one of the most valuable and important of commercial products. On the Malabar and Corvoman-del coasts of India the trees grow in vast numbers; and in Ceylon, which is peculiarly well situated for their cultivation, it is estimated that twenty millions of the trees flourish. The wealth of a native in Ceylon is estimated by his property in cocoa-nut trees, and Sir Emerson Tennent notes a law case in a district court in which the subject in dispute was a claim of the twenty-fifth twentieth part of an acre of palms. The tree is very beautiful and lofty, growing to a height of from sixty to one hundred feet, with a cylindrical stem which attains a thickness of two feet. It terminates in a crown of graceful leaves. The leaf sometimes attains a length of twenty feet, consists of a strong mid-rib, whence numerous long, acute leaflets spring, giving the whole, as one traveler described it, the appearance of a gigantic feather. The fruit consists of a thick external husk or rind of a fibrous structure within which is the ordinary cocoa-nut of commerce. The nut has a very hard, woody shell, inclosing the kernel, within which again is a milky substance of a rather agreeable taste.

The cocoa-nut palm is so widely disseminated throughout tropical countries that it is impossible to distinguish its original habitat. It flourishes with equal vigor on the coast of the East Indies, throughout the tropical islands of the Pacific, and in the West Indies and tropical America. It is most at home, however, in the numerous small islands of the Pacific Ocean. Its wide dissemination is accounted for by the shape of the fruit, which, dropping into the sea from trees growing along the shores, would be carried by the tides

and currents to be cast up and to vegetate on distant coasts.

The uses to which the various parts of the cocoa-nut tree are applied in the regions of their growth are almost endless. The nuts supply a considerable portion of the food of the people, and the liquor enclosed within them forms a pleasant and refreshing drink. The liquid may also be boiled down to sugar. When distilled it yields a spirit which is known as "arrack." The trunk yields a timber which is known in commerce as porcupine wood, and is used for building, furniture, and firewood; the leaves are plaited into fans and baskets, and for thatching roofs of houses; the shell of the nut is employed as a water vessel, and the outer husk or rind yields the fiber which is used for the manufacture of ropes, brushes, cordage and the like. Cocoa-nut-oil is an important article of commerce. It is obtained by pressing or boiling the kernels, which are first broken up into small pieces and dried in the sun. It is estimated that one thousand full-sized nuts will produce upwards of twenty-five gallons of oil. The oil is a white, solid substance at ordinary temperature, with a peculiar rather disagreeable odor. Under pressure it spreads into a liquid and a solid, the latter being extensively used in the manufacture of candles.

Within late years the oil has also been manufactured into cocoa-nut butter, retaining, however, in a greater or less degree a distant flavor of the nut.

The monkeys and orang-outangs are very expert in destroying the tough outer covering of the cocoa-nut, though quite two inches thick. They insert their teeth into the tapering end of the nut, where the shell is very uneven, hold it firmly with the right foot, and with the left tear the covering to pieces. Then thrusting a finger into one of the natural apertures they pierce a hole, drink the milk, break the shell on some hard object and eat the kernel.

THE BOHEMIAN WAX-WING.

THE Bohemian Wax-wing is interesting for its gipsy-like wanderings, one winter visiting one country, next season another, often in enormous flocks, and usually with intervals of many years, so that in former times their appearance was regarded as sure forebodings of war and pestilence, their arrival being dreaded as much as that of a comet. Another interesting feature of its history is the fact that for a long time this familiar bird eluded the search of the zoologist. Its breeding habits, and even the place where it breeds, were unknown thirty years ago, until finally discovered by Mr. Wolley in Lapland, after a diligent search during four summers. It is also called the European or Common Silk-tail, and is an inhabitant both of northern Europe and of North America, though in America the Cedar Bird is more often met with. In the northern portions of Europe, birch and pine forests constitute its favorite retreats, and these it seldom quits, except when driven by unusual severity of weather, or by heavy falls of snow, to seek refuge in more southern provinces. It is said that even in Russia, Poland, and southern Scandinavia it is constantly to be seen throughout the entire winter; that indeed, so rarely does it wander to more southern latitudes, that in Germany it is popularly supposed to make its appearance once in seven years. On the occasion of these rare

migrations, the Silk-tails keep together in large flocks, and remain in any place that affords them suitable food until the supply is exhausted.

These birds are heavy and indolent, exerting themselves rarely except to satisfy hunger. They live in perfect harmony, and during their migrations indicate no fear of man, seeking their food in the streets of the villages and towns. They frequently settle in the trees, remaining almost motionless for hours together. Their flight is light and graceful, but on the ground they move with difficulty. Their call note is a hissing, twittering sound. In summer, insects are their chief food, while in winter they live principally on berries. The Wax-wing will devour in the course of twenty-four hours an amount of food equal to the weight of its own body. In Lapland is the favorite nesting ground of the Bohemian Wax-wing. The nests are deeply hidden among the boughs of pine trees, at no great height from the ground; their walls are formed of dry twigs and scraps from the surrounding branches, and the cavities are wide, deep, and lined with blades of grass and feathers. There are five eggs, laid about the middle of June; the shell is bluish or purplish white, sprinkled with brown, black, or violet spots and streaks, some of which take the form of a wreath at the broad end. The exquisite daintiness and softness of the Wax-wing's coat can be compared only to floss silk.

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BIRDS AND NATURE.

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No. 4

AN AUTUMN EVENING.

In scattered plumes the floating clouds
Went drifting down the west,
Like barks that in their haven soon
Would moor and be at rest.
The Day sank down, a monarch tired,
Upon Night's sable breast.

The wind was all but hushed to sleep,
Yet now and then it stirred
A great tree's top, and whispering,
Awoke a slumbering bird,
Who half aroused, but only chirped
A song of just a word.

And in the west the rosy light
Spread out a thousand arms,
Each with a torch, whose crimson flame
Stretched o'er the peaceful farms,
And o'er the yellow corn, that lay
Unconscious of all harms.

Then changed into a waste of blue
A desert tract of air,
Where no rich clouds, like Indian flowers
Bore blossoms bright and fair;
And over all, a sense of want
And something lost was there.

—Walter Thornbury.

THE PINE GROSBEAK.

(*Pinicola enucleator.*)

Ere the crossbills leave the pine woods,
Ere the grosbeaks seek the ash seeds.

—Frank Bolles, "The Log-Cock.

The name grosbeak, or great beak, is a common name for a number of birds that possess large, thick and strong bills which are adapted to crushing fruits and seeds. Unfortunately this name has been indiscriminately applied to the representatives of several bird families.

The true grosbeaks are related to the goldfinch, the finches, the sparrows, the buntings and the crossbills. In fact they have some of the marked characteristics of the latter birds, as neither develop the fully adult plumage for several years.

The Pine Grosbeak must be sought in the northern regions of the northern hemisphere, where the vast forests of cone bearing trees are found, or among the coniferous trees of the high altitudes of the western mountain regions of the United States. In the latter place they are not abundant. It seems to be at home and contented only in the cold, crisp air of the far north and seldom seeks a more temperate climate except when the winters are unusually severe or there is a scarcity of food in its native haunts. It is a frequent winter visitor to the northern tier of the United States and is quite abundant, at this season, in some portions of New England. Except during the nesting season the Pine Grosbeaks are gregarious and are frequently seen in flocks of fifteen or more individuals. In the winter climate of the northern United States these flocks contain many more immature than adult birds, the younger ones seeming to be less able to withstand the severer cold of more arctic regions. Thus in this district the more brilliant plumage of the fully adult male is rarely seen, and becomes a valuable acquisition to the naturalist, for the younger birds and the females are less showy. Speaking of the beautiful male bird, some

one has said, "Scarcely can the southern climes send us a more brilliant migrant than this casual visitor from the north." There is a slight variation in the plumage coloration and in the shape of the bills of the Pine Grosbeaks of widely separated regions. These variations have led ornithologists to group these birds under geographical races giving each race a varietal name.

Speaking of the Pine Grosbeaks of Siberia Mr. Seeborn says, "Almost all the forest districts are hilly and in the north, as the trees become smaller, they are also more thinly scattered over the ground and the interminable extent of wood is broken by occasional flat, open spaces and open marshes which become gray with flowers as soon as the snow melts. The scenery is much more park-like than further south and these birds are much more plentiful and more easily seen. In the large pine forests they prefer the banks of the rivers or the outskirts of some open place and may often escape detection because of their habit of frequenting the tops of trees. Within the Arctic circle many of the trees are small and on the hilly ground they are scattered in small clumps. In places like these the Pine Grosbeaks may often be seen perched conspicuously on the top of a spruce fir, twenty or thirty feet from the ground but looking so much like the last spike of the tree as frequently to escape notice."

The Pine Grosbeak is a retiring bird and would seem to be somewhat shy as it does not frequent the roadside or inhabited places except when forced to do so by the lack of food. This, however, is not the case, for in the forests where it makes its home it is not difficult to approach it. It will frequently alight



and begin feeding within a few feet of an observer.

The song of the European form of this species is said to be "exceedingly agreeable, varied, melodious, sonorous—sometimes strong, sometimes soft." It is also a mocker and to a limited extent will imitate the voices of other birds. Dr. Cones likens its song to that of the purple finch and says that during the late summer and winter it is "clear, sweet and flowing." Its call note is single, sweet and plaintive not unlike that of the well known bullfinch.

Pine seeds seem to form the principal food of the Pine Grosbeak though it also feeds extensively on those of the birch, alder and related trees. At times it will descend to the ground and gather the seeds of herbaceous plants and may eat a few insects. Dr. Dall writing of the Pine Grosbeak as he found it in Alaska, says: "I have opened the crops of a great many and always found them filled with what I for a long time supposed to be spruce buds, but on closer examination I found that they were the hearts of the poplar buds, with the scales and other external coverings carefully rejected. I have never found anything else in their crops." In those regions where the mountain ash abounds the berries of this beautiful tree form a very important part of their diet whenever it frequents such a district.

The outer wall of the home of this denizen of the forest is constructed of a framework of slender fir or pine twigs. Inside of this wall and projecting above it is placed a lining of fine roots and grass woven with a fine hairlike lichen.

The Pine Grosbeak seems to bear confinement, but when caged it is said that after the first moulting the crimson color of the plumage is replaced by a bright yellow. Mr. E. W. Nelson observed these birds in Alaska and says, "During winter, while traveling along the frozen surfaces of the water courses of the interior it is common to note a party of these birds busy among the cottonwood tops, uttering their cheerful lisping notes as they move from tree to tree. I have frequently passed a pleasant half hour on the wintry banks of the Yukon, while making a midday halt and waiting for the natives to melt the snow for our tea, listening to the chirping and fluttering of these birds as they came trooping along the edges of the snow-laden woods in small parties. They rarely paid any attention to us, but kept on their way and were, ere long, lost to sight in the midst of the bending tree tops and silence again pervaded the dim vistas of the low woods. Beyond the faint, soft call note uttered as the birds trooped along through the forests, I never heard them make any sound."

THE ANNUAL NOVEMBER CONFERENCE.

October had gone. In north central Illinois many trees had lost all their gaily colored leaves; others were fast becoming bare. With the exception of a few goldenrod and aster blooms, the splendid autumn flowers were buried in banks of dead leaves. The sun cast daily smaller shadows. Only once in a while could the tree sparrow capture a belated beetle. The quiet of the woods was broken by the busy little Mr. Squirrel gathering his winter's nuts.

The pecking of Woodpecker Brothers

& Company was busily kept up; but most of the sweet-voiced birds had gone south.

The merry voices of gay nutting parties were drowned in the rustling of dry leaves. Even Mrs. Chipmunk was startled if she heard before she saw her own Mr. Chipmunk coming toward her. The woods seemed almost lifeless.

Missing the bustling, restless life of their active summer neighbors, the birds still in the forest were beginning to feel lonesome. Some were loth to leave their

homes and familiar places. Others who were touched with a desire to join the rovers were unwilling to forsake their old friends when skies were so dark and days so dreary.

Finally they agreed to call a mass meeting to see if they could agree to all go or to all stay together.

Then arose the question of how to get word to all the birds. Although he knew that he was out of tune, cheerful yellow-breasted Mr. Meadowlark said that he would do his best at whistling through the meadows for the purpose of letting his neighbors know of the meeting. Mr. Bob White agreed that instead of always calling his own name, he would go through the fields and along the edges of the timber where he was best known, calling his comrades.

Mr. Blue Jay, Mr. Black Crow and Mr. Black-Capped Chickadee, who are always in voice, were urged to help. Mr. Crow was asked if he could not call "come" as easily as "caw." Upon making a trial he found that he could. Since he has no fear either in the fields or near the towns, he was sent to scour the country roundabout. Mr. Chickadee, who keeps a summer cottage in the thick woods, was asked to see that all the timber birds were called.

As the season was daily growing more cheerless, and as it was feared that some birds might not promptly obey the summons, the fearless, fighting Mr. Jay was told to arrest all heedless or laggard birds. As this command just suited Officer Jay, he started off in high spirits. Having no patrol wagon at his call, he took along Mr. Chickenhawk to help him manage those who must be brought by force.

Although they said that they were anxious to have all the birds present, the Woodpecker Brothers and their partner, Mr. Nuthatch, said that they could not drop their work to roam over the state, but that they would help by pecking and pounding as noisily as they could so that the gathering birds might know in just which timber to alight.

At last the day for the meeting came. The sky was sunny, but the air was chill. It was about the middle of November and the days were growing shorter and

shorter. You would be surprised to know how many different birds were present.

The great strong Mr. Bald Eagle was chosen to conduct the meeting. This he did in good style. He told the object of the meeting in a little speech: "Neighbors, friends and relations," he said, "we have come together to discuss a very important matter. Spring came with all its beauties, fresh promises of life and new chances. Warmed with renewed vigor, we began our year's work with great vim. You all know how hard every one of us has worked in building a home and rearing a family. Summer, with its plenty, has passed and our children are grown. Shall we join those of our old neighbors who have already left for other homes in the sunny southland? Or, shall we face the winter's storm and cold here? Let us hear from every one present. Which shall we do?"

As everyone waited for someone else to speak first, it was as quiet as Quaker meeting. After waiting a while, as jolly Mr. Robin is so well known and liked, Chairman Eagle called upon him. Robin replied: "My summer in Illinois has been a pleasant one. Here are many fond ties. Wife and I have had a cosy home in which we have raised four of our five children. They are now happily flying about. We have but one sorrow. A cruel stone from a sling-shot killed our other baby." Here Mrs. Robin cried so that he could not go on until he had pulled out his handkerchief and wiped his eyes. Her cousins, Mrs. Thrush and Mrs. Bluebird, tried to quiet Mrs. Robin by fanning her and holding some smelling salts to her nose. Choking back a lump in his throat, Mr. Robin went on talking. "We have found strawberries, mulberries, cherries and other fruits in plenty, and have never lacked for insects that are our reliance for food. But winter with ice and snow is coming. Jack Frost has already been here and has driven away most of our bugs and worms. Our bills are not strong enough to crack nuts. Wild berries which we can eat are almost gone. Unless the kind children scatter us plenty of crumbs, if it freezes so hard that we can get no more insects, sorry as we are to leave, we must go to a warmer country. But

we will go no farther than we must, and will return as soon as we can. We remember that last year in December there was a spell warm enough for bugs to creep out and we came back for a five days' visit. We prefer to remain if we can get a living."

This started them all to talking, and they had to be called to order. Singer Bluebird said that he, like the Robins, cannot do without his bugs and worms, and must go where he can get them or starve.

Mr. Quail, who likes to be called Bob White, said: "My dear plain little wife and my children very much prefer bugs. We are all so fond of them that we relish even potato beetles. Yet, in winter time—unless they are covered by a deep snow, we can find grains, weed seed and other things which will keep us from starving. In that case, we can go to the poultry yard and eat with the chickens. We fear freezing most. After all the good work which we do for the farmer, he might well afford to provide us a shelter. But it is to be supposed that he does not think of it. However, we will risk staying here."

Two chums, Mr. Crow Blackbird and Mr. Red-Winged Blackbird, who had been driven from a marshy place by Blue Jay, sat side by side on the same limb and were having fine sport making faces and winking at each other while the speeches were being made. Both can help the farmer. Mr. C. Blackbird can eat mice and the scattered corn kernels. Mr. R. W. Blackbird can pick smartweed, ragweed and other weed seeds. Yet both declared that they could not get along without insects and they did not mean to try. "Down south," said Mr. R. W., "if insects are scarce, there are plump rice kernels which taste better than old weed seed."

Up spoke Mr. Common Crow: "I would not be so particular. I teach my children to eat corn and mice and we can find both around the corn-crib. And we can always find a frozen apple in the orchard, or some potatoes or turnips in the garden, or a forgotten pumpkin in the field. These taste very good. If we are very hungry, we can pick up dead rabbits and birds. We will stay so as to be here when the farmer

begins his spring work. We are not afraid of his scarecrows. They never hurt us. We help the farmer so much that he will surely let us get a living around the farm. He will never miss what we eat."

A pair of Turtle Doves on a limb of a neighboring tree softly sang, "Coo, coo, we will stay, too."

There were several of the Woodpeckers present. The little black-and-white one with red patches on the sides of his neck, who is called Downy Woodpecker, tried to speak for the whole family. We all must have our insects. God has given us long, strong bills so that we can peck holes into the wood in which bugs and grubs are hidden. Sometimes merely our tapping charms them so that they crawl out for us. If they do not, we can run out our long tongues and catch those beyond the reach of our bills."

His big red-headed brother went on: "Oh, yes! we can find enough to eat. I can leave the trees for hunting places for the rest of the family. There is plenty of food good enough for me in fence posts and telegraph poles. Besides, I can eat cedar berries, nuts and other things. No need for me to go off on a tramp in search of food. Ha, ha!" chuckled he, "I have already begun to lay aside for winter. You'll not catch me starving here. I know just where to find knot holes, cracks in railroad ties, loose pieces of bark and loose shingles on houses which hold a good supply of beech nuts and acorns. If I find an apple on the tree, I can bore into it for the seeds. Then there are choice bits to be found around the cow sheds and barns. We have no thought of going away."

The pair of Turtle Doves nestled closer together and again sang, "Coo, coo—we will stay, too." Everybody smiled at their loving peace of mind.

"I have already begun to hollow out a hole in a high tree for my winter home," said Downy Woodpecker.

"So have I," said the pretty Golden Winged Woodpecker, who is nicknamed High Hole; "and it is in a place that just suits me in the tip top of a very tall tree."

Mr. Nut Hatch rose to his feet. "I

too hammer into cracks and holes such things as sunflower seeds, corn and nuts for winter use. Mr. Chickadee and I have agreed to work together. I hunt only on the trunks and larger limbs, leaving the smaller branches for friend Chickadee. If he can not find quite enough he knows how to hunt around houses. Children who see him only when snow is on the ground call him Snowbird and sometimes kindly throw him crumbs."

"I can eat buds of some trees and seeds, too," added Mr. Chickadee.

Just then a Northern Shrike alighted in their midst. In an instant there was a flutter of great alarm. The cool headed chairman bade everybody to sit still and he would see to it that nobody was hurt. Because of his cruelty, you know, the Shrike is often called Mr. Butcher Bird. He catches other birds which he hangs on great thorns while he tears and eats their flesh. Even the English Sparrows are afraid of him.

Chairman Eagle explained the purpose of their meeting and Mr. Shrike promised to hurt no one. Looking around he said, "I have just come from my summer home in the north to spend the winter with you. I see gay little Winter Wren hopping around. As soon as there comes a northern snowfall heavy enough to cover the weed seeds there Mr. and Mrs. Snow Bunting will join us."

"How glad we will be to see them; glad to see them!" chattered happy Chickadee. "We will have a jolly game of snowball. Chick-a-dee-dee-dee! Dada-day!" And he hopped along and around a branch one of the most light-hearted creatures living.

Mr. English Sparrow wished to say something. "Our flock can always find a warm place and something—"

Just then a hoarse voice was heard calling, "Who, who, who, who, ar-r-re you?" As the feathered people must ever be on the alert to protect their lives, in a second all was as quiet as the grave. Thinking that some better dressed bird only meant to make fun of him and his many wives Mr. English Sparrow flew into a passion and began to pull off his coat.

Mr. Eagle told the crowd that there was no need of a scare. "That," said he, "is only Mr. Barred Owl in yon tree. He has been roused by our talking. Put on your coat, foolish Mr. Sparrow."

Mr. Jay could not let slip the chance to twit his neighbor. "Ha, ha!" said he; "you had better get enough more wives to teach you how to behave yourself."

Everyone looked around laughing. Thinking that night had come and that his friends from the next timber had come to make a call, Mr. Owl again broke out: "He-he-he-he, hi-hi-hi-hi, ha-ha-ha-ha!"

Mr. English Sparrow was vexed and ashamed, but being afraid to get into a fight he flew off.

As it was getting late in the day the chairman said that the meeting must close. "It is useless to talk longer," said he. "It is plain that our pretty Meadow Larks and other insect eating birds must move or starve. We shall be very sorry to see them leave and hope to meet them again on their return next spring. They are needed at the south. May God speed their journey.

"But some of us must remain or shirk our duty. The Turkey Buzzards and their helpers must be here to clean up the fields and groves and to clear away dead things washed ashore. If these things are not done the foul air next spring may make much sickness. Woodpeckers must keep at their work or plants will suffer next summer. Those who can eat seeds must be active or the farmers will not be able to keep down the weeds. Grouse, Jay, Wax Wing and others who can manage berries and nuts must not leave or in a few years trees and underbrush will be so thick that there will not be room for them to branch out. Even our hated Mr. English Sparrow is needed to pick up droppings in the street and waste around houses. We are all needed—each to do his own bit of work in his own place and way. Although that may not be just what we prefer, may we all do our duty just as cheerfully as man's friend, Mr. Turkey Buzzard, does his unpleasant tasks."

LOVEDAY ALMIRA NELSON.



FROM COL. CH. ACAD. SCIENCES.

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FIELD SPARROW.
(*Spizella pusilla*.)
— 4/4. Life-size.

THE FIELD SPARROW.

(*Spizella pusilla*.)

A bubble of music floats
The slope of the hillside over;
A little wandering sparrow's notes;
And the bloom of yarrow and clover,
And the smell of sweet-fern and the bayberry
leaf,
On his ripple of song are stealing;
For he is a chartered thief,
The wealth of the fields revealing.
—Lucy Larcom, "The Field Sparrow."

The Field Sparrow is the smallest of our sparrows and is quite easily distinguished from the other species by its reddish bill. The common name is misleading, and perhaps it would be more appropriate to call this bird the Bush Sparrow, a name by which it is frequently known. Instead of the field it seems to prefer the pasture, with its weeds and bushes. It will also frequent the shrubby thickets that follow the removal of a forest. This shy bird has a somewhat extensive range, which includes the eastern United States and Southern Canada. It passes the winter months chiefly in those states south of the Ohio river.

The Field Sparrow when frightened does not retreat to the cover of foliage, as does the Song Sparrow, but flies to an exposed position on top of bush or low tree, where it can watch and await developments. In the fall they frequently gather in small flocks. If disturbed all will fly to the nearest bushes, and in perching will cluster close together.

The Field Sparrow is all the more interesting because of its shyness. Mr. Keyser speaks of it as "a captivating little bird, graceful of form and sweet of voice, singing his cheerful trills from early spring until far past midsummer. The song makes me think of a silver thread running through a woof of golden sunshine, carried forward by a swinging shuttle of pearl." Mr. Chapman says: "There is something winning in his appearance; he seems such a gentle, inno-

cent, dove-like little bird. His song is in keeping with his character; being an unusually clear, plaintive whistle, sweeter to the lover of birds' songs than the voice of the most gifted songstress." It is not possible to describe the song in words, for it varies greatly. No two birds seem to have the same song and the same bird may vary its song. Locality also seems to affect its character. It is the sweetest at the going down of the sun and in the early twilight. To hear it then, in the absence of all other sounds, is indeed soul inspiring.

Its delicate nest, too, becomes the lovely character of this little bird. This small house is usually placed near the ground in a low shrub, or on the ground where it is well protected by tall grasses. The nests are not usually found near fence rows, but rather in less public places, on hillsides and nearer the center of the field. When possible, a thorny bush is chosen. The nest is constructed of fine grasses and very fine roots loosely woven together and lined with finer grasses, hair and the delicate bark fibers.

Writing of the finding of a Field Sparrow's nest near the top of a hill, some one has said: "How 'beautiful for situation' is this tiny cottage on the hill! Here the feathered poets may sit on their leafy verandas, look down into the green valleys and compose verses on the pastoral attractions of Nature. One is almost tempted to spin a romance about the happy couple."

DISHRAG VINES.

Margie was cross. It was a rainy day, and she was having to sew; two things she hated.

"I think it might rain on school days. And I wish dish-cloths had never been invented," she exclaimed, jerking her thread into a tangle.

"You ought to move down south," quietly said her aunt.

"Why? Don't they have rain and dish-cloths there?"

"Yes, of course they do; and I will tell you a true story, if you will promise not to complain the least bit for the rest of the day."

Margie promised; and, after threading a needle, her aunt began:

"When I was in Georgia, last October, I saw a queer vine growing over the porch of an old negro's cabin. It looked like a pumpkin vine, with its great coarse leaves, and it had green, gourd-like seed pods, or fruit, hanging all over it. I asked the old colored man, who was hoeing near by, about it, and he said, in surprise: 'Lawsy

me! Didn' you neber heerd tell ob a dish-rag vine afore?"

"'Dishrag!' I echoed.

"'Yes, they grows dishrags on 'em,' he answered. Then, pulling off one of the funny gourds, he cut it in two and showed me the matted fibers inside. It seems when these halves are dried in the sun, that they become something like a tough sponge.

"He seemed very proud of the fact that his wife had used one for a whole year, and asked, in a tone half of pity and half of disgust, 'Does you all hab ter use er rag?' He was pitying me just as I was sorry for him! It was too funny to see him hobble off, shaking his head and laughing at a white woman who 'neber knowed nothin' 'bout dishrag vines!'"

"Will you bring me one next winter, aunt?" Margie asked.

"Do you want to wash my dishes with it?"

"N-no. I'd rather hem cloths, I b'lieve; but I'd like to try it on my doll dishes."

LEE McCRAE.

A SNOW-FLAKE.

Once he sang of summer,
Nothing but the summer;
Now he sings of winter,
Of winter bleak and drear:
Just because there's fallen
A snow-flake on his forehead,
He must go and fancy
'Tis winter all the year!

—Thomas Bailey Aldrich.

NEIGHBORING WITH NATURE.

We were at breakfast one morning, when a loitering breeze from the woods filled the room with delicious aroma. The graceful spring flowers and the wild fruit trees were just beginning a life of promise.

"There's sweet smelling fern in that," exclaimed Charley, sniffing critically.

"I think it's from the crab-apple trees by the chalybeate spring," said grandma.

"No, it's the chicksaw plums by the creek," cried Margaret.

"It 'mells 'ike 'bacco moss to me," murmured Pearl, touching the tip of her nose with her dainty forefinger.

"I know what it is," asserted Grace; "it's the wild cherry tree; it's full of blossoms."

"There's Ginseng in it somewhere," laughingly commented papa.

"Ginseng?" cried the children. "What's that?"

"The name of a plant in the wood. The word is supposed to be of Chinese origin. The Iroquois called the root garentoqucu, literally, legs and thighs separated. The plant belongs to the genus *Pauax*, and it is a great medicine with the Chinese. We export it in large quantities, but northern Asia grows it as well as we."

"And there is some in our wood?"

"Yes, I saw some yesterday near the tobacco-plant bed."

"Can we go for some as soon as we have finished breakfast?"

"Yes, and I will go with you. A walk through the wood will be good for us; I feel like I had slept a hundred years and been one of Tennyson's characters in *The Day Dream*."

"And I," said the artist, "will take my pencil and sketching block."

Six plants were found, all having good long roots.

"What you have now would cost you a quarter of a dollar if you were buying it," said papa.

"One could live very well then, by gathering Ginseng to sell," commented practical Charley.

"Why, yes, you remember old Uncle Baskett, the colored doctor?"

"Yes," said Margaret. "He cured toothache by hanging a rabbit's foot about your neck."

"And fits with a four-leafed clover," cried Gracie.

"He made his living," went on papa, "after he was freed, by collecting the roots of Ginseng, Calamus and other medicinal plants, and it was then, too, he gained his almost marvelous knowledge of herbs, becoming famous, even among the white people, for his success in curing certain diseases."

"I think this leaf and root are accurate," said the artist presenting the sketch.

"To a 'T,'" cried the children. "You must go with us every walk we take."

Sallie Margaret O'Malley.

Gaunt shadows stretch along the hill;
Cold clouds drift slowly west;
Soft flocks of vagrant snow flakes fill
The redwing's empty nest.

—Thomas Bailey Aldrich, "Landscape."

THE CAROLINA WREN.

(*Thryothorus ludovicianus*.)

This little brown bird is sufficiently hardy to remain throughout the year a resident of the localities which it frequents. This is true except in the northern part of its range, which covers the eastern United States as far north as the states of Wisconsin and Connecticut.

The Carolina Wren does not enjoy the society of men and unlike its relative, the house wren, does not seek "the cozy nooks and corners about the house of man," but rather the distant shrubbery and the forest. Here it hides and is more often heard than seen. In spite of this show of timidity it is not so shy and retiring as it would seem. It loves the privacy and seclusion of the forest yet it will frequently visit the garden and explore outhouses. "If we attempt to penetrate its hidden resorts it hurries away into deeper recesses with a low fluttering near the ground, or scrambling and hopping from one bush to another, very likely mocking us with its rollicking song as soon as it feels perfectly secure.

It is restless and curious like the other wrens. Perhaps it is even more inquisitive than its sister species, for it is certainly more active. Frightened from a favorite perch the Carolina Wren will return and, from a safe cover of foliage, slyly examine the cause that disturbed it, "peering from among the leaves with an inquisitive air, all the while teetering its body and performing odd nervous antics as if it were possessed with the very spirit of unrest." When disturbed it seems to challenge the intruder with a chattering note that has a harsh and decidedly querulous tone.

It seems almost incredible that such a delicate and sprightly being should exhibit so much temper and resentment. Intrusion of its chosen territory by its own kind is resented even more vehemently.

The Carolina Wren possesses a wonderful vocabulary with appropriate notes for all occasions. It is highly musical. Its song is rich and sweet, voluble and melodious, loud and clear and seemingly as happily delivered in one season as in another. Mr. Chapman says: "He is sometimes called Mocking Wren, but the hundreds of birds I have heard were all too original to borrow from others. In addition to his peculiar calls he possesses a variety of loud, ringing whistles somewhat similar in tone to those of the tufted titmouse or cardinal and fully as loud, if not louder, than the notes of the latter."

It is difficult to state its preference in regard to its choice of nesting sites, for it will select any place that suits its fancy. The hollow of a tree or a stump, a thickly branching shrub or a secluded nook in some unfrequented outhouse, perhaps with a knothole for a doorway—all these places are equally suitable and some one of them will meet the taste of this positive little bird.

The materials used in the construction of the bulky nests are any fibrous substance, sticks, leaves, fine grasses and "in fact trash of any kind." The lining of the ball-like nest, which has a side entrance, is made of finer fibers, hair and grasses. In this cozy home are laid from four to six creamy white eggs which are "variously marked with reddish brown and lilac, in a wreath or cluster at the larger end."



CAROLINA WREN.
(*Thryothorus ludovicianus*)
About Life-size.

THANKSGIVING BY THE NINNESCAH.

It was Thanksgiving Day in Kansas. The sun still shone warm over the yellow cornfields and the brown prairies, tho' there was a hint of frost in the air, and the nearly bare trees stood as ominous tokens of the coming winter. The autumn wind blew a perfect gale from the southwest. Down in the valley by the river the sand was flying in stinging clouds, jerking the few remaining yellow leaves from the cottonwoods, ruffling the waters of the Ninnescah, beating the purple veil from the hedges where the autumn sun had tangled it, bending the long reeds, and drifting in little mounds beneath the wild-plum bushes.

On the uplands where the curly buffalo-grass spread its thick brown carpet, the whitened heads of the golden-rods bent before the wind, the sage-grass waved its long yellow stalks, and the sunflowers rattled their bare stems and brown heads together.

Behind the shelter of one of the sand-hills beside the Ninnescah river a strange assembly of birds and beasts and creeping things had gathered.

A couple of rough-coated, sharp-eared gray coyotes were rolling and tumbling over one another in a good-natured scuffle.

A bunch of quails were picking up the seeds which the wind shook from the sunflower pods above them, while a few brown prairie chickens lay sunning themselves upon the sand.

A long-eared jackrabbit sat erect upon his haunches in solemn dignity, acting as umpire to the coyotes' prize-fight; while his cousin, the little cotton-tail rabbit, nibbled at some tender twigs that grew near by.

A rattlesnake was curled up in the sunniest place to be found, and his companions, the cunning brown prairie dog and the little grey owl, sat near by.

Sand lizards flashed here and there beneath the plum bushes, and the guest of honor—a huge mountain lion—lay dozing within the shelter of the thicket.

Blue jays, blackbirds, brown thrushes, scarlet-coated redbirds, sparrows and yellowhammers flitted from bush to tree: meadow larks trilled their cheerful song; while up on the topmost twig of a tall cottonwood tree a mockingbird swung in the wind and poured his whole soul through his little throat in a wonderful stream of melody.

All the delegates of the animal world being at last assembled, the jackrabbit—in consideration of his dignity—was made master of ceremonies, and called the assembly to order in the following words:

"My honorable friends, the birds and beasts and reptiles of Kansas: We have assembled here today to hold a sort of Thanksgiving service.

"Once every year men gather themselves together to count over the good things that have come to them, and to congratulate one another over the evils they have missed.

"It may occur to some of you that we birds and beasts have little for which to be thankful in these days when dogs and men are so numerous, and when life is attended with so many privations and dangers. But, upon careful thought, I think each one present will be able to add an item to our list of blessings of the past year that will encourage us through the winter days so near at hand.

"Our friend and guest, the mountain lion, will please to address us."

The mountain lion opened his fierce eyes, stretched his huge paws, rose slowly to his feet, and shook the sand from his rough coat.

In spite of the truce of the occasion, the smaller animals eyed him with evident terror, and the prairie chickens fluttered their wings as if ready to fly away from so dangerous a neighbor.

"What have I to be thankful for?" the lion asked in harsh tones. "I am thankful that I have come through the year with a whole hide in spite of dogs and guns and men. I am thankful that dogs are afraid of me, and that men dare not

attack me single-handed. I am thankful that after all my wanderings from the solitudes of the Indian Territory mountains, I have found this comparatively safe retreat among these sandhills and plum thickets. Calves, and pigs, and chickens—and rabbits—have been abundant; so I have no cause to complain of poor living. Kansas would be paradise if it contained neither dogs nor men." He ground out the last sentence with a growl which would have caused both dogs and men to tremble if they had heard it, then lay down and resumed his nap beneath the bushes.

A respectful silence had fallen over the assembly; for "Who shall follow the king?"

As soon as the jackrabbit had gotten over that terrible reference to rabbits enough to steady his voice, he called upon the coyotes for remarks. Both sprang briskly to their feet, and as neither one would give way to the other, they addressed the assembly in alternate barks:

"I am thankful that I am so swift a runner that no dog can catch me."

"And I am thankful because I can scare almost any dog that tries to catch me. How they do run and howl when I turn on them!"

"Chickens and ducks and geese are plentiful; and though the chickens learn to fear us and roost high, ducks and geese are always on the ground and can neither fly nor run."

"This has been a fine season for young pigs, and I also caught several lambs that made tender eating."

"There are such delightful thickets along the rivers and streams, that coyotes have plenty of safe hiding places. I have made good burrows beside the Ninnescah and Arkansas rivers, the Cowskin and Honey creeks, and I go back and forth at pleasure. Yes, Kansas is a pretty good country for coyotes—barring the dogs and men."

"Yes, barring the dogs and men."

Both coyotes sat down and the little cotton-tail spoke:

"Life is hard and dangerous for a rabbit at best. There are so many enemies to fear, and even our swift flight often fails to save us. I have fared well this year. I found a place where the farmer keeps no dogs and owns no gun. To be sure,

he had woven-wire fences around his garden and his young orchard, but I found a cunning little hole in the fence behind one of the grapevines that was just made for a door for a poor little rabbit, and I tell you I have lived high. Such peas and lettuce and cabbage as that man did have! Enough for twenty rabbits like me. Then for a change I nibbled the tender shoots on the grapevines, and now am expecting to get my living this winter by gnawing the bark from several hundred young fruit trees which he has set out. I have already found a hole under the fence. So I have cause to be thankful to-day."

The little prairie dog sat up stiffly and tried to look dignified as he addressed the assembly.

"Life has been full of ups and downs for me and for my friends, the rattlesnakes and owls. We had made a fine burrow in a broad pasture, and all last year we lived there in peace. This year the man who owned it concluded to plow it up for a cornfield; and the first thing he did, he turned the water from a slough right into our beautiful prairie dog town and flooded all our carefully dug homes. Many of my brothers and cousins were drowned or rushed out of their holes only to be slain by the dreadful dogs and men.

"I was more fortunate, because I had run one of my tunnels in an uphill direction for fear that water might some time trouble us. When the flood came I retreated to this high point and saved myself, altho the water almost reached me, and I was obliged to stay there for several days before I could make my way out.

"Now I have a pleasant home here among the sandhills, and I have been careful to dig a good upper story with an opening through which I can escape in time of need. The rattlesnake and the owl share my humble home, and we live in peace together."

The owl nodded his wise head, and the snake shook his rattles in approval of this address which included themselves, and made it unnecessary for them to add their voices to the speechmaking.

A little green lizard roused himself from his warm place in the sun and added his squeaky voice to the general conference:

"I know nothing about dogs and men. My brothers and I live here upon the

sandhills where insects are plenty and enemies are few. We spend hours in basking in the delightfully hot sun, and if any noise alarms us dart to our hiding places beneath the roots of the bushes or under some rotten log or tree. We are of several colors, gray, green, yellow or brown, and when we lie still upon the sand or on logs or under leaves it is hard for any beast or bird or man to see us. We may have few blessings, as the world goes, but we at least have nothing of which to complain."

The prairie chickens were next called upon for an account of themselves, and answered:

"We are the sole representatives of the great coveys of birds of our kind that used to make their homes upon these prairies. Their drumming could be heard within the thickets, and the swift whirling of their brown wings as they beat the air in their diagonal flight. Life was a pleasure to prairie chickens in those good old days before we were born.

"Now it is different. Men learned to consider our flesh a delicacy and hunted us down. They even grudged us the grain that we gathered from their broad wheat and corn fields and treated us as common robbers. Now only a few of us are left, and we dare not call our lives our own. We have learned to be very shy and to hide in the most solitary places. Still, life is not all trouble. The winters in Kansas are short and usually mild, there are plenty of good warm thickets and hedges, and there is always plenty for birds to eat, unless the snow is uncommonly heavy. So we manage to be happy and take each day as it comes."

The quails trooped forward as the prairie-chickens ceased speaking.

"We are the farmer's friends," said they, "and therefore the farmer is friendly to us. We eat the bugs and worms that would destroy his crop. We take a little of his grain now and then, but we more than repay the damage by our warfare upon the bugs.

"We have been so fortunate as to find a farmer who appreciates us, and will allow no one to shoot us. So our year has been peaceful, and we have been bountifully fed."

An ungainly toad hopped forward as the quails ceased speaking:

"I do not look much like a quail, and can neither fly nor run nor sing; but I also am the farmer's friend, and am always ready to seize my opportunities when they come in the shape of flies and bugs. I may not be beautiful, to some unappreciative eyes, but I am at least useful."

The birds having selected the chattering jay to speak for them, he raised his voice as follows:

"My friends desire me to say that our lives are lived above most of the things that annoy the rest of you. Floods and dogs and fences do not trouble us: still, we have dangers enough of our own. There are snakes that climb to our nests and destroy our young. There are prowling cats, and pouncing hawks, and boys with bean-shooters, and men with guns, all of whom are lying in wait for our lives. We are so common and so numerous that men fail to appreciate what we do for them. We make their groves bright by our brilliant plumage, and gay with our cheerful songs. We eat millions of caterpillars and bugs and worms. To be sure, we eat some of the grain and peck the ripest fruit, but then that should be looked upon as our just reward for our labors in men's behalf. Some of us will soon be taking our flight to southern climes, but many of us will remain here in the friendly shelter of the thickets until spring comes again."

What more the blue jay might have said was cut short by a great crackling of the bushes, which startled all the birds and smaller animals, and caused even the mountain lion to raise his head and sniff suspiciously.

Their alarm was quieted by the appearance of an old white horse who looked around upon the assembly and asked:

"What is all this? How does it come that coyotes and rabbits, birds and lizards and insects and lions"—very respectfully—"are associating in peace together?"

The object of the meeting was explained to him, and he was asked to add his word to the Thanksgiving service.

"What have I to be thankful for? Look at my bones almost sticking through my skin, my knees strained and my eyes almost blinded by pulling too

heavy loads, my wind broken by hard driving, my skin scarred by cruel blows. Life has been all hard work, with scanty food and little rest. What have I to be thankful for? I do not know, unless it is that my cruel master died last night, and can never beat and curse and starve me any more. This is scanty pasture here among the sandhills, but it is better than a full manger, and curses and abuse therewith. Often the best thing that can happen to a horse is to have his master die. And so I am duly thankful."

As all had now been represented, the jackrabbit said:

"My friends, the reports have now all been made. We have heard many pleasant things, and many things which make us sad. I think, however, that each one has found some cause for thanksgiving, even though his life is hard and filled

with danger. All of us have learned that there are troubles and difficulties in the lives of others, many of which do not afflict us, and for this we should be duly thankful. From lions to lizards is a long step in the animal world, but there is a chain of common experience all the way through, binding us together.

"Let us remember through all the year to come, that there is no life without trial and privation, without hope and blessing, without cause for thanksgiving. Let us sympathize more with one another, think less of our own trials, and look oftener at the bright spots that come into our lives.

"The Thanksgiving Assembly for the year Nineteen Hundred and One is now adjourned."

MARY MCCRAE CULTER.

Wildly round our woodland quarters,
Sad-voiced Autumn grieves;
Thickly down these swelling waters
Float his fallen leaves.
Through the tall and naked timber,
Column-like and old,
Gleam the sunsets of November,
From their skies of gold.

O'er us, to the southland heading,
Screams the gray wild-goose;
On the night-frost sounds the treading
Of the brindled moose.
Noiseless creeping, while we're sleeping,
Frost his task-work plies;
Soon, his icy bridges heaping,
Shall our log-piles rise.

—John Greenleaf Whittier, "The Lumberman."



BLACK-POLL WARBLER.
(*Dendroica striata*.)
Life-size.

THE BLACK-POLL WARBLER.

(*Dendroica striata.*)

Warbler, why speed thy southern flight? Ah, why,
Thou, too, whose song first told us of the spring,
Whither away?

—Edmund Clarence Stedman.

Few birds have a wider and more extended range than the Black-poll Warbler. Wintering in the southern United States, Central America and the northern part of South America, they move northward in the spring, reaching Greenland and Alaska in June. Their range extends to the westward as far as the Rocky Mountains. Their breeding range is nearly confined to the regions north of the United States.

This little bird which travels so extensively is a little later than many of the warblers in arriving at its summer home, but it seems to waste little time on the journey, as it flies rapidly and stops but little to search for food. These words of the poet,

"And warblers, full of life and song—
All moving swiftly on their way,"
truthfully illustrate the flight of the Black-poll in its spring migration.

This species exhibits habits similar to those of the flycatchers and "may be considered as occupying an intermediate station between the flycatchers and warblers, having the manner of the former and the bill partially of the latter." There is no better illustration of the saying that "The nice gradations by which nature passes from one species to another, even in this department of the great chain of beings, will forever baffle all the artificial rules and systems of man."

The Black-polls are at home not only in the woods but also in the tops of the tallest trees. They prefer those forests that border on water courses or swamps where, flying from branch to branch they quickly catch the winged insects with a

snap of their bills not unlike that of the flycatchers. Like the flycatchers, too, the color of their plumage is beautifully adapted to obscuring them in their dark green foliage retreats.

Standing on the very tip of some evergreen tree, "the chaste little figure striped in half mourning and capped in jet-black," will burst out in a happy song and then quickly fly into the dark recesses of the forest.

The female shows a strong attachment for her nest and exhibits great anxiety on the approach of any being, "beating her wings along the branches in the utmost distress, or one may still hear her sharp chipping note of alarm as she disappears in the almost impenetrable growth of small black spruce."

The nest is interesting. It is usually placed on a large branch at its junction with the trunk of the tree. A cone-bearing tree is selected and the spruce is preferred, as in it the nest is more perfectly obscured. The Black-poll's house is not the delicate structure that one would expect to find as the home of so dainty a bird. This bulky structure is usually placed not higher than six or eight feet from the ground. It is constructed from the fine twigs and sprays of the evergreen trees and fine roots woven with weeds, moss, lichens and vegetable and animal hairs. The lining consists of fine grass and feathers. Though the external diameter of the nest is fully five inches, the internal diameter seldom measures over two inches.

Mr. Langille has beautifully described the song of the Black-poll. He says,

"That song, though one of the most slender and wiry in all our forests, is as distinguishable as the hum of the cicada or the shrilling of the katydid. Tree-tree-tree-tree-tree-tree-tree, rapidly uttered, the monotonous notes of equal length, beginning very softly, gradually increasing to the middle of the strain

and then as gradually diminishing, thus forming a fine musical swell—may convey a fair idea of the song. There is a peculiar soft and tinkling sweetness in this melody, suggestive of the quiet mysteries of the forest and sedative as an anodyne to the nerves."

TRAGEDY OF THE AIR.

Sweet voices midst the blossoms;
Amidst the meadow-blooms;
Midst mallow-buds and sedges;
Midst flower-hearts by their looms;
Through vistas of the forests,
Round minaret and dome,
The mists of mountain torrents;
Through rainbows of the foam;
Above the rush of waters;
Above the swirl of seas;
Through labyrinths of maremma—
Ah yes, and more than these—
Yet flashes out a remnant
Of bird-wings on the air,
Or floats the song-birds' rhythms
Midst slaughter and despair.
Is there no human pity?
In all the world so wide
Can nothing stay the slaughter,
Can nothing stem the tide
Before, from Nature's pageant,
All bird-life joy is crushed;
Before the wings lie broken
Before the songs are hushed?

—George Klinge.

OFF FOR THE SOUTHLAND.

The first frosts of autumn are a warning to the summer songsters that it is time to prepare for their long trip to the southland. From pine and beech and shrub they come, lingering to catch a stray insect or to feast on the seeds so plentiful at this season of the year, steadily collecting until dozens and fifties and hundreds of a kind are grouped together.

Whether the smaller birds, such as the robins, blue birds and ground birds, select a leader for the trip south, it is difficult to say. Some birds do so, and follow their leaders, as the sheep of olden time followed their shepherd. However this may be, these fine-feathered travelers are careful to remain in a squad as compact as possible, and a note of alarm from one puts the whole legion to flight.

All birds of short flight travel by night only, perhaps because it is a time less beset with dangers from the enemy; perhaps instinct is more in control at night, when there is naught but dreams of the southland to claim their attention. Some authorities have surmised that the birds, like the mariner, are familiar with the heavens and, taking some star or constellation as their guide, fly straight to the summerland of the world. But this last is not a safe conclusion, for the blue birds and robins have been known to err in their choice of a wintering place, some stopping in northern Georgia and perishing there because of their blunder. Others have remained in the Middle States throughout the winter, which grave error the best students of bird-nature have been unable to explain.

But we must not infer from this that birds, as a rule, travel at random and trust to what man calls "luck." These little perching birds are the ones most

liable to mistakes, and a sudden change in the weather or an unusually tempting food supply may lure them to pause too long in these more northern regions, delaying them until it is impossible for them to finish their trip. They have a very short flight, compared to other birds, and it is no slight task for them to accomplish a journey of a thousand miles or more. Yet they go and come with remarkable precision, and there are many instances of a pair nesting in the same tree or crevice or broken limb for several years in succession. When spring returns, some happy experience of the year before brings them back to the loved spot, and there they linger till time for the fall migration.

The birds which are most unerring in their time and course of flight are the water birds. The wild geese are first in this particular, flying high in the air and with the leader ever in full view of the flock, remaining on the wing for from twenty-four to forty-eight hours. To be classed next to these are the herons, the wild ducks and the bittern, the long-legged waders, and the little sand-pipers. All these follow the water courses, the Mississippi and its tributaries being their principal highways.

The ground birds usually follow the prairie countries, though the clearing away of forests has induced them to frequent eastern Indiana and Ohio in recent years. But the western prairie states are their acknowledged summer homes, from whence they gather in companies when autumn comes and, like their fellows, flee to a warmer clime till their favorite dunes and marshes are again habitable.

CLAUDIA MAY FERRIN.

TURQUOIS.

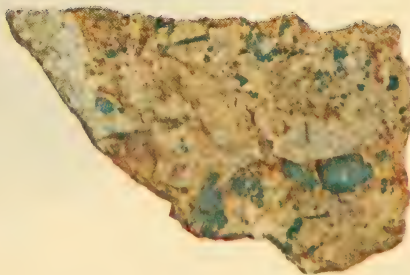
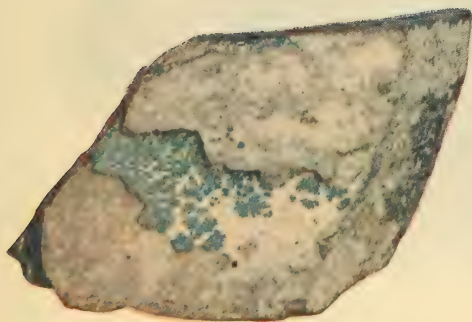
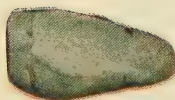
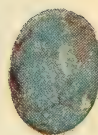
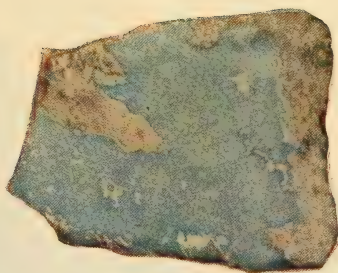
This mineral differs from nearly all others held in favor as gems, in not being transparent and never occurring in the form of well defined crystals. The opal is perhaps the only other gem of which the same may be said. In composition Turquoise is a hydrous phosphate of aluminum, the percentages being: Of water, 20.6 per centum; of alumina, 46.8 per centum, and of phosphoric oxide, 32.6 per centum. Thus in composition as well as opacity Turquoise differs from most other gems, they being usually silicates or some form of silica. Besides the above ingredients Turquoise always contains a small percentage of copper oxide and usually iron, calcium and manganese oxides in small amount. It is the copper compound which undoubtedly gives Turquoise its inimitable color, that color to which it owes its chief charm as a gem. The color varies from sky-blue through bluish-green and apple-green to greenish-gray.

Of these colors the pure sky-blue or robin's-egg blue is by far the most highly prized and is in fact the only standard color for the gem. Green is, however, the most common and the most lasting color of the mineral, and it is one of the faults of the gem that the blue shades often fade to green after being exposed to the light for a time. In a stone of first quality, however, especially a Persian Turquoise, such fading of color is exceptional. A good Turquoise also maintains its color in artificial light. The hardness of Turquoise is 6, in the scale of which quartz is 7. It is therefore somewhat more easily scratched than other gems. Its specific gravity varies from 2.6 to 2.8, being about that of quartz. It does not fuse before the blowpipe, but turns brown and assumes a glossy appearance. By the copper of the Turquoise the blowpipe flame is usually colored green. When heated in a closed glass tube the mineral

turns brown or black and gives off water. Almost any of these tests will serve to distinguish true Turquoise from stones used to imitate it. It has a conchoidal fracture and waxy lustre. On account of its opacity it is almost never cut with facets like most other gems, but in a round or oval form with convex surface. The pieces desirable for cutting rarely reach a large size so that big gems of Turquoise are comparatively unknown.

Much of the so-called Turquoise used in former times was bone-turquoise, or odontolite, made from fossil bone colored by a phosphate of iron. It is obtained mostly from the vicinity of the town of Simor, Lower Languedoc, France. It is sometimes known as Western or Occidental turquoise, in distinction from the Oriental turquoise, most of which came originally from Persia. It does not retain its color by artificial light as does true Turquoise and may be further distinguished by giving off an offensive odor when heated, owing to decomposition of animal matter. Further, it is lighter than true Turquoise and does not give a blue color with ammonia when dissolved in hydrochloric acid, as does true turquoise.

The finest Turquoises have long come from Persia, from a locality not far from Nishapur, in the province of Khorassan. Here the mineral occurs in narrow seams in the brecciated portions of a porphyritic trachyte and the surrounding clay slate. There are several hundred mines in the region and the entire population of the town of Maaden derives its livelihood from mining and cutting the stones. It is said that \$40,000 worth of stones are taken from these mines annually. A pound of stones of the first quality sells at the mines for about \$400 and is worth more than double that price in Europe. There are other Turquoise mines in Persia, but their product is comparatively



445 SPECIMENS LOANED BY FOOTE MINERAL CO.

Indian Amulet.
Artificially polished.
Natural.

TURQUOIS.
(New Mexico.)

Waterworn.
Waterworn.

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Artificially polished.
Artificially polished.
Natural.

small. "Persian Turquoises" have, however, the highest value of all. Other Oriental localities from which the gem Turquoises are obtained are Sinai, in Arabia, the Kirgishi Steppes, in Siberia, and the Kara-Tube Mountains, in Turkestan. Egypt also furnishes large quantities of Turquoise, which does not as a rule retain its color well.

Turquoise is not an uncommon mineral in the United States and many gems of fine quality have been obtained from mines within our borders. The oldest and best known mines are those at Los Cerrillos, New Mexico. This locality was long worked by Indians and Spaniards, as shown by the great extent of the excavations. There are pits two hundred feet in depth and piles showing that thousands of tons of rock have been broken out. Fragments of Aztec pottery, vases, cooking utensils, stone hammers, etc., are found at the mines, and trees of considerable size have grown over the once worked portions. Hence the beginning of the mine workings must at least date back prior to the discovery of America. The mines were worked more or less by Spaniards in the early part of the seventeenth century with the consent of the Indians, or at least without hindrance from them. In 1680, however, a large landslide occurred on the mountain at the mine, and many of the Indian miners were overwhelmed. Believing the Spaniards to be in some way responsible for the accident, and perhaps fearing that their gods were displeased, the Indians rose in their might and expelled the Spaniards from the region. It is one of the few instances in the history of Spanish conquest in America in which the Indians came off victorious. The Indians seem to have prized the Turquoise highly as an ornament, rudely polishing it and using perforated pieces like the one shown in the plate for necklaces. They also decorated their idols and other objects of worship with pieces of Turquoise. The mountain at which the Los Cerrillos Turquoise mines occur is called Mount Chalchihuitl, in allusion to an Indian name that is supposed to have been applied to Turquoise. The mountain is evidently of volcanic origin. The color of most of the Turquoise from this locality is apple-green rather than the highly

prized blue, but some gems of a good blue have been obtained. Mr. Geo. F. Kunz, writing in 1890 of the sale of gems from this locality, says that the Indians usually dispose of them at the rate of twenty-five cents for the contents of a mouth, which is where they usually carry them. Several other localities in New Mexico are worked for Turquoise. In Cochise County, Arizona, is a locality known as Turquoise Mountain, where considerable mining is carried on. Turquoise is also mined in Gila County, Arizona; Lincoln County, Nevada, and San Bernardino County, California. Several of these localities have been opened up recently, the present popularity of the gem perhaps having stimulated its output.

The much higher price commanded by Turquoise of a blue color has led to a counterfeiting of this color by staining green Turquoise or other stones with Prussian blue.

Mr. Geo. F. Kunz in his "Gems and Precious Stones of North America" describes a method of detecting this stain. It consists in washing the stone with alcohol and, after wiping it, to remove any grease, laying it for a moment in a solution of ammonia, when the blue color, if artificial, will largely disappear.

At how early a date Turquoise began to be prized as a gem is not known. The word Turquoise is a French word meaning Turkish, or a Turkish gem, and came to be applied because the gem was introduced into Europe by way of Turkey. It is probable that the gem has been in use from the remotest past among Oriental peoples and it is certainly still highly prized by them. Not the least of the reasons for which it is held in high esteem by them as well as by many Occidental individuals is the good fortune it is supposed to bring to its possessor. One of the proverbs of the Orientals is, "A Turquoise given by a loving hand carries with it happiness and good fortune," and another, "The Turquoise pales when the well-being of the giver is in danger." Numerous other superstitions cling around the Turquoise. One of these, due probably to slight changes of color which the stone may undergo under certain climatic influences, is that if the owner of a Turquoise sickens it will grow pale, and at his death lose its color entirely, but it

will regain its color if placed on the finger of a new and healthy master.

In Germany the Turquoise is said to be in much favor for engagement rings, owing to the belief that if either party prove inconstant the stone will make the fickleness known by weakening in color. It is curious that of the two non-crystallized gems, Turquoise and Opal, one should be considered lucky and the other unlucky. Both are more liable to

changes of color than other gems, and this fact has probably led to the ascription of good or ill fortune to them. In the folk lore of the months Turquoise is connected with the month of December, as the following rhyme bears witness:

If cold December gave you birth,
The month of snow and ice and mirth,
Place on your hand a turquoise blue,
Success will bless whate'er you do.

OLIVER CUMMINGS FARRINGTON.

TO THE MEADOW LARK.

Up from dewy grass,
while yet 'tis dark—
On trembling pinions,
soars the meadow lark;
His brilliant vest
like ruddy orange glows;
From slender throat,
the liquid music flows.
Dear flute-like warbler
of the wood and field,
Before him all his rivals
bow and yield!
The ambient air, with
fluttering wing he beats;
With song ecstatic,
early morn he greets.
High, high he
rises; and his peans float,—
While listening Nature
revels in his note.

—J. Mayne Baltimore.

THE OUTRAGED BIRD.

Once upon a time, nearly seventy years ago, a little boy in a New England town was given a gun on the condition that he must not shoot any birds except those that robbed the corn fields. In those days farmers thought that the crow, brown thrasher and crow-black-bird stole so much grain that it was right to kill them and therefore a bounty, large for that time, of twenty-five cents was offered for every crow destroyed. Nowadays we are wiser and this very boy who has grown into a tall, gray haired, tender hearted man, says that there is not a bird living that is not more of a blessing than a curse.

But to go on with my story. The little gunner went out one day to see what he could hit with his new gun. About a quarter of a mile from the house he spied a little bird in a tree on the edge of the woods. He took aim and fired. He did not kill the bird, did not even seriously wound it, only injured one of its wings. The bird dropped down at his feet and

began chirping and scolding as if to demand an explanation.

The boy tried to get away but every time he moved aside the poor little outraged creature hopped in his path, never ceasing his vehement, indignant protest against the unwarrantable deed.

Finally the conscience-smitten boy, seeing that there was no escape for him and pitying the wounded condition of the bird, killed it outright, carrying away in his throat a great lump and in his heart a sharp pain that will never die out. Although he is now over eighty years of age he says that he would gladly give all the money he owns if he could undo that one thoughtless act.

When a bird can say so plainly that his life is his own and no one has a right to wantonly take it from him, what must have been the thought of that bird's loving Creator, without whose knowledge and pity not even a sparrow falls to the ground!

FANNIE SKELTON BISSELL.

NICODEMUS.

Nicodemus was a pet blackbird. A sleet storm broke the bough on which the nest was built, and all the birds, save one, were killed in the fall. This one, Nicodemus, was placed in an old hat lined with wool, and kept near the fire until he was ready to fly about the room. He was an apt scholar, and soon knew his name, responding readily to every call. When the weather became warm he was allowed the freedom of the yard. Whenever his mistress saw a stray cat about she would go out on the porch to his cage, strike upon it, and call: "Nicodemus!"

"Nicodemus!" whereupon the bird would fly into his cage for safety.

One day an aged gentleman called at the house. Nicodemus came into the parlor. At first he nestled upon his mistress' shoulder, but his curiosity seemed much excited, and he soon flew to the old gentleman, alighted upon his bald head, when he began a vigorous scratching.

"For shame, Nicodemus! Come here at once," cried the lady. He obeyed, but with a really abashed look.

BELLE PAXSON DRURY.

A WEED PICTURE.

To one who cares little for natural objects a bit of bottom land in autumn has few attractions, but to the botanist of experience or to a student of nature, from late July till the first frost comes, such a place is a continuous delight.

Perhaps you have seen this very picture. If so, have you studied its details?

A half acre of swamp, which in the springtime presented a dainty background of yellowish green willows and a foreground of green pasture dotted with dandelions and blue violets, has now transformed itself into a Persian effect of gorgeous color. Blue, pink, brown, green, red, purple, white, lavender, yellow, orange brown, and these through tintings and shadings that a modern Titian would never produce, even should he wear his brush to a stub, for the very simple reason that he couldn't.

Plant life has here run riot and because of their dense growth the varieties are almost unaccountable.

Among the showier members of this very mixed growing effect, in color, brightest is purple iron weed and the helianthus.

But joe-pye weed tosses up his woolly pink head and flauntingly asks, "With that big yellow and black butterfly on my crown am I not more showy than they?" He has to be gently reminded that all his brothers are not wearing butterflies, which fact leads to a negative decision—still he is a beauty.

Then the corners festooned with clem-

atis, hop bindweed and even dodder give to the raw edges a finish that cannot be excelled. Little dots of cardinal, here and there, show a belated cardinal flower and bitter sweet just ready to open hangs over the elder bushes, which form one edge of this picture.

The paler asters in eight or ten shadings, with the exception of the New England variety, begin to fill in the neutral patches, and golden rod is waving yellow plumes here and there. It is a beautiful color, but looks rather pale compared to the later sunflowers. Bonaset and yarrow and spurge each have a place, and great bunches of bedstraw fill up the crannies till not a square inch of earth is visible.

Some of the plants which help complete the perfect whole but which are less numerous and showy, are the tall dead stalks of angelica, parsnips in seed, milkweed, ragweed, mallow, nettles, vervain, blackberry, and wild rose with scarlet bolls; and this flanked on another side by the densest of willow and thorn.

Some of the finishing touches to this composite picture are the huge green dragon flies, the brilliantly colored butterflies and moths, and the catbirds and bird kindred which live in the heart of all this magnificence, but manage to keep well on the wing, especially when the sun shines bright and the air is soft and cool, and on days when a deep blue sky with great white clouds is the canopy.

MARY NOLAND.

The air is full of hints of grief,
Strange voices touched with pain—
The pathos of the falling leaf
And rustling of the rain.

—Thomas Bailey Aldrich, "Landscape."



Illustrated by
Frank H. Mearns

STRIPED HYENA.

THE STRIPED HYENA.

(*Hyaena striata.*)

The first Hyena in which I became interested lived in a zoölogical garden connected with a well known park.

I cannot claim that she was a beautiful creature for, if all must be told, she had the same ugly appearance of every other Striped Hyena. And yet her very ugliness made her somewhat interesting. She would look at me from her slanting eyes with an unsteady, uncanny expression. Her thick head and neck, her stout body, her shorter hind legs and longer front ones, causing her back to slope from shoulder to tail like a small toboggan slide, gave her an extremely awkward look, I admit; and then she had but four toes on each foot as is the case of all members of the hyena family. Her body was covered with rather long coarse hair of a yellowish gray color striped with black, her tail was short and bushy, and along the spine the hair grew long and stiff, making a sort of mane. Her ears were large, erect and devoid of hair, and her voice—well! it was something to startle the uninitiated. There were shrieks, murmurs and growls, sometimes hoarse and sometimes shrill, and yet I am told that it is mild and musical compared with the ghostly laughter of her cousin, the spotted hyena, and yet her voice is not pleasant to hear.

In spite of all these characteristics I was interested in Mrs. Hyena, perhaps on account of her unhappy lot, for she was not loved as were other animals around her. There was Duchess, the elephant, Major, the lion, and other favored ones whose personality was recognized, as they all had names and they received much attention. But Mrs. Hyena had no name, for the keeper declared that she was such a miserably cowardly mean creature that she was not worth one.

She was only the "Hyena" to him, though he had cared for her for many years and sometimes had been obliged to put her in the hospital because her mate had mauled and punished her so badly.

And was she not to be pitied because she was so far from those of her own kind? for hyenas are not native in the new hemisphere and to seek her own, she would be obliged to cross the ocean to the coast of Africa. There she would find many of her own kind and should she cross into southern Asia as far as the Bay of Bengal she would still find many friends, while in central and southern Africa her cousin, the spotted hyena, would be plentiful, and at the south, along the western coast, her other cousin, the brown hyena, would be found.

In spite of the large area in which the various members of the family may be found a traveler may be in the country some time without seeing one, for they are nocturnal in their habits, hiding by day in their haunts among the rock-cut tombs in Syria and Palestine or among holes and caves in the rocks in other countries, sometime lurking among ruins, but more often inhabiting a den made by digging a hole in the side of a cliff or ravine.

But at night it is heard, if not seen, as it goes forth to seek its food. It prefers food already killed and only attacks a living animal when driven to it by lack of carrion. Its powerful jaws enable it to crush the bones which other animals leave. As the cleaning up of the world must be done in some way for the good of all, can we not believe that the hyena has an important mission to fulfil in spite of the strong feeling against it? It takes what other animals leave and is the vulture among beasts.

There seems to be little known about the brown hyena. It is found in a comparatively small region and is in some respects like the spotted hyena though it is smaller, being about the size of the Striped Hyena.

The spotted hyena is the largest of the three, the most ferocious, stupid and cruel. Owing to the legs being nearly of the same length it is less awkward than the striped species.

There are no animals about whom there are so many superstitions. Even Pliny, writing in the first century, tells us that it "imitates the human voice among the stalls of the shepherds; and while there learns the name of some one of them, and then calls him away and devours him." It is also said that coming in contact with its shadow, dogs will lose their voice, and that, by certain magical influence "it can render any animal immovable round which it has walked three times." The Arabs "believe that people who partake of the brain of the hyena become insane, and the head of a hyena is always buried lest it should be used by wicked sorcerers for their diabolical charms."

They also believe that the hyena "are sorcerers in disguise, who assume human shape by day and prowl around as hyenas by night, working destruction upon good people."

The stories of the body snatching propensities of the Striped Hyena are much exaggerated. If this occurs at all it is when the body is very lightly covered with sand and when other food is lacking.

The dislike for the hyena seems to exist wherever the animal is found. In many parts of India, when killed, the body is treated with every mark of indignity and then burned.

And yet the striped species is capable of great attachment. Colonel Sykes states that "in certain districts in central India it is as susceptible of domestication as ordinary dogs." And Dr. Brehm, who found every created animal interesting, once had two young hyenas for pets; but I will give the narration in his own words. "A few days after our first

arrival in Khartoum we purchased two young hyenas for a price equal to twenty-five cents in American money. The animals were about the size of a half-grown terrier, clothed in a very soft, fine woolly fur of dark gray hue and they were very spiteful, notwithstanding they had enjoyed human society for some time. We put them in a stable and I visited them daily. At first they were addicted to vicious biting, but repeated sound blows overawed their resistance, and three months after the day of purchase I could play with them as I would with a dog, without having to fear any mischief on their part. Their affection for me increased every day and they were overjoyed when I visited them. When they were more than half grown they signified their pleasure in a very strange manner. As soon as I entered the room they rushed at me with a joyous howl, put their fore paws on my shoulder and sniffed my face.

"Later on I led them by a single string through the streets of Cairo, to the horror of all good citizens.

"They were so affectionate that they often paid me a call without being invited and it made a surprising as well as uncanny impression on strangers to see us at the tea table. Each of us had a hyena at his side and the animal sat on his haunches as quietly and sensibly as a well behaved dog who pleads for a few scraps at the table. The hyena did that also, and their gentle request consisted of a low but very hoarse cry. They expressed their gratitude either by the same sounds and actions they used in greeting me as above described, or by sniffing my hands.

"They were passionately fond of sugar, but also had a great liking for bread, especially if it was soaked in tea. Their usual food was Pariah dogs, which we shot for the purpose. My pets were on good terms with each other. If one were absent for any considerable length of time there was great joy when the two met again; in short, they proved to me quite conclusively that even hyenas are capable of warm attachment."

JOHN AINSLIE.

A BIRD INCIDENT.

A common bird with us is the pheasant and one of the most interesting incidents of my life was in connection with a family of pheasants.

Crossing a woodland one summer evening, making the dead leaves rustle beneath my feet, I looked down, I hardly know why, but it must have been in order to save the little innocents. For the brown leaves seemed to me to be alive, very much alive, indeed.

I stopped, dropped to a sitting posture, and reached forth my hand, and to my surprise they never tried to get away, but cuddled up in a little frightened flock right to my feet. I gathered them all into my dress, twelve of them, cunning little midgets, not larger than the end of a man's thumb, and awaited developments.

The parent birds were near and soon the mother began crying with a pitiful call. I couldn't imitate it in any way, but

it expressed tenderness, concern and fear. Soon an angry frightened bird whirled over my head, again and again, each time nearer until she almost knocked off my hat; she passed and getting just in front of me, made feint of a broken wing, and lay apparently helpless a little ahead. I never saw anything more expressive of anxiety than the actions of this bird. I could not bear to tease her, so setting the birdlings on the ground I withdrew to a position where I could see the united family and watched the mother love as it went out to the helpless brood. The words of the Master, "Oh, Jerusalem! Jerusalem! how often would I have gathered thy children together even as a hen gathereth her chickens and ye would not," never before came to me with such force. Truly the maternal instinct, next to love of the Divine, is the most sacred thing in the world.

MARY NOLAND.

GROUSE.

The name Grouse is supposed to come from gorse—furze or heath—and is applied to many game birds in the family Tetraonidae.

The great majority of Grouse belong to the northern part of America, but in England the Grouse may be said to have had an effect upon history, as parliament used always to rise when the season for shooting Grouse arrived!

The red Grouse is indigenous to Great Britain, but is represented in other northern countries by the Willow Grouse, which assumes a protective white color in winter, except that the tail remains black.

The Ruffed Grouse, or pheasant, has caused much dispute in reference to how it produces the drumming sound which can be heard at a long distance, and which musical exercise is no doubt intended as a noisy courtship in wooing his mate.

The distinctive name, "Ruffed," comes from the ruff of dark feathers, with iridescent green and purple tints which

surrounds the neck. This bird has a slight crest and a beautifully barred tail. Its note is a hen-like cluck. No bird has handsomer eyes, with their deep expanding pupils and golden brown iris.

In a beautiful ravine—which was carpeted with green moss a foot deep and shaded by evergreen trees hung in soft gray mosses—on an uninhabited island in northern Lake Superior, I once saw some Canada Grouse so tame that it appeared as if they might easily be taken in one's hands. The parent birds were on one side of the trail, the young ones in a tree on the other side. All kept quite still for me to look at them, only the young ones lifted their wings slightly, as if wishing to fly across to their parents, who seemed to have an expression as of astonishment at seeing so strange a sight as a human being in their unfrequented solitudes. The gentlemen of our camping party declared that these Grouse were so tame it would seem a crime to shoot them.

THE GIRAFFE.

(*Camelopardalis giraffa*.)

Should a traveler returning from a far country describe a wonderful animal, with the head and body of a horse, neck and shoulders of a camel, ears of an ox, the tail of an ass, the legs of an antelope, and the coloring and marking of a panther, he would be believed with difficulty, and yet this combination very fairly describes the curious and interesting animal known to us as the Giraffe.

This name is a corruption of the Arabian *serafe*, the lovely one, and while a single animal, away from its natural surroundings, may not seem to merit the appellation, in its native woods it produces a very different impression.

The Giraffe is found in a wide curve, extending over the eastern half of Africa from Ethiopia as far south as the confines of Cape Colony. Within this area it frequents the sandy, desert-like portions where small trees and shrubs abound.

Hunters and explorers describe with enthusiasm the appearance of the herds of Giraffe, which are sometimes in groups of six or eight, but more frequently found in larger numbers, often as many as thirty or forty being together, while one traveler in the Soudan counted on one occasion seventy-three, and at other times one hundred and three and over one hundred and fifty in one herd.

Gordon Cumming tells us that "when a herd of Giraffes is seen dispersed in a grove of the picturesque, umbrella-shaped mimosas, which adorn their native plains, and on the topmost branches of which their immense height enables them to browse, the observer would really be deficient in appreciation of natural beauty if he failed to find the sight a very attractive one."

The Giraffe is curiously like the natural objects of the locality in which he lives. He is found in stretches of coun-

try where half decayed, weather beaten, moss covered trees resemble the long necks of the animal; so much so that Cumming says he was often in doubt as to the presence of a whole troop of Giraffe until he had used his spyglass, and he adds: "Even my half-savage companions had to acknowledge that their keen, experienced eyes were deceived sometimes; either they mistook those weather beaten trunks for Giraffes, or else they confounded the real Giraffes with the old trees."

Though found in wooded sand belts which are waterless a portion of the year, the animal of necessity avoids the tall, dense forests, for its food is chiefly the tender leaves and buds of low-growing trees, especially the leaves of the mimosa and of the prickly acacia.

These trees are seldom more than twelve or fifteen feet in height, and with its long legs and neck the Giraffe can easily reach the appetizing twigs and leaves on the broad flat top of the tree. Moving from one side to another, as if the tree were a table spread for its use, it throws out its long snake-like tongue, which it can manipulate with great dexterity and which it uses as an elephant does its trunk. When we remember that the largest animals are sometimes eighteen feet in height, and that the tongue is seventeen or eighteen inches in length, we can see how easily the Giraffe can take its breakfast, while the tree that furnishes it serves also as a screen or shield to conceal it from its enemies.

From the fact that the giraffe will abide in localities which are waterless for months at a time, it has been supposed that water was not necessary for its comfort. This is far from the truth, and it has frequently been seen to drink; its appearance when drinking is most



GIRAFFE.
(*Camelopardalis giraffa*)

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peculiar, and one who has witnessed the curious operation tells us that although the animal's neck is so long, it can not reach the water without straddling its legs wide apart. This it does by placing one foot forward and the other as far back as possible, increasing the distance between them by a series of little jerks, and sometimes they sprawl their legs out sideways in a similar manner.

It is at the watering place that the lion lies in concealment waiting for the Giraffe to appear. Should it remain unconscious of the lion's presence, the victory is to the lion, but in the open the Giraffe has an equal chance with the "king of beasts," for it can defend itself valiantly and successfully with vigorous blows from its powerful limbs. The small horns are not used as a means of defense; they are covered with skin, and at birth the bones are separate, becoming attached to the skull at a later period, while the third small horn, especially observable in the male, is really no horn at all but only a thickening of the bone at that point.

The head of a Giraffe is really a thing of beauty. On account of the delicate contour of the muzzle the head appears longer than it really is. The nostrils can be opened and closed at will, making it possible to avoid injury from the sand storms which sometimes prevail. The eyes are the largest for the size of the head of any animal and are wonderfully gentle, lustrous and beautiful. They are also capable of some lateral projection so that to a degree the animal can see behind it without turning its head.

Notwithstanding the extreme length of the neck of the Giraffe it contains but seven bones, the same number as man.

Its sloping back has led some people to suppose that the legs were uneven in length; this is an error, as the legs are about the same length and the feet have delicate, beautifully shaped, divided hoofs.

The tail of the animal is long and finished with a generous tuft of hair with which it relieves itself of the seroot flies and other stinging insects which otherwise would become unbearable.

Like the American bison the Giraffe is in danger of extermination. It originally had a larger range but has been

killed in great numbers. The temptation to hunt the animal is not to be resisted, as the hide of the bull brings from twenty to twenty-five dollars, the flesh is very fine eating and the other parts of the body can be put to various uses; the Arabs use the tendons of the legs for sewing leather, the tail-tufts are used for fly brushes and the solid leg bones are in England made into buttons and other bone articles.

The Giraffe is difficult to approach for it is extremely wary, and will place sentinels to give the herd warning of approaching danger. It is a rapid runner, although its gait is shambling and peculiar owing to the fact that it moves like a pacing horse, the fore and hind legs of the same side moving together.

It is usually hunted on horseback and the animal must be pressed from the moment he starts; "it is the speed that tells against him, and the spurs must be at work at the commencement of the hunt and the horse pressed along at his best pace; it must be a race at top speed from the very start, for should the Giraffe be allowed the slightest advantage for the first five minutes the race will be against the horse."

Europeans and natives alike are fascinated with Giraffe hunting, though few fail to be struck with the pathetic and half-reproachful expression of a fallen animal and few hearts are so hardened as to feel no compunction at "destroying one of the noblest specimens of nature's handiwork."

Mr. Selous, after hunting one day, in recounting his experiences says: "Even in the ardor of the chase it struck me as a glorious sight to see those huge beasts dashing along in front, clattering over the stones or bursting a passage through opposing bushes, their long, graceful necks stretched forward, sometimes bent almost to the earth to avoid horizontal branches, and their bushy black tails twisted over their backs. And how easily and with what little exertion they seemed to get over the ground, with that long, sweeping stride of theirs!"

The skin of the Giraffe is in many parts so thick that a bullet will not pierce it, and the surest method of hunting it is that pursued by some of the Arabs of Abyssinia who run it down while gal-

loping at full speed and with their broad-swords cut the tendons of its legs, thus completely disabling it. Although the natives love to hunt the animal they love still more to own a living one and their heads may often be seen peering over the inclosure in the native villages.

In 1836 four Giraffes were successfully taken to the zoological gardens at Regent's Park, London. From this time they became somewhat common in menageries so that many people have seen

the living animal, but all view it with curiosity as did the old Romans in the time of Julius Cæsar, when individuals were brought to Rome on the occasion of the games. And it is not strange that at a later date the picture of this curious and then unknown animal, found on Egyptian monuments, were pronounced "a dream fancy of an unbridled artistic imagination."

JOHN AINSLIE.

THE FLAG.

I plucked a flag, half open
To the sunlight it waved and blew,
And bent o'er the water beside it
Where the sweet pond-lilies grew.
The stem broke short in my fingers,
The bloom remained in my grasp,
But the life of the swaying pretty thing
I tried in vain to clasp.

The breezes were floating gently by
The calm, peaceful waters reflected the sky;
The flag-stalk nodded its flowerless head,
In my hand lay the blossom withering, dead.

I stood for a moment longing
As I seldom had longed before,
Longing for even the life that was gone
To return to that flower no more.
But the breezes bent over me softly
And whispered, the lost is found,
For whatever you pluck from the surface
Is restored once more in the ground;

For the gardens of earth hold blossoms more fair
Than the one you have plucked and are holding there.

—Ella Van Fossen.

IN THE HOLLOW OF HIS HAND.

(From an Ornithologist's Year Book.)

So tiny that a child's small palm can cover its whole body, inaudible at a few paces' distance, invisible till it rises at your very feet, such is our yellow-winged sparrow. Yet he is a marvel; his plumage shows an exquisite mimicry of the earth tints, "the upper parts mixed black, rufous-brown, ashy and cream-buff," with a touch of "yellowish olive-green" for the herbage, and here and there an orange or yellow shade, and a dusky whiteness beneath, to give the effect of light. What could be more perfect? No wonder the wee householders, with a nest of fine-woven grasses, low upon the ground, sits unseen on her "clutch" of wee speckled eggs within reach of your fingers. She knows this well, and will not rise until you are almost upon her retreat. Nor will she fly far. A fence post, a low shrub will serve as her watchtower until danger is over.

Our yellow-tinted sparrow has another name, the "Grasshopper Sparrow," from its insect-like tremolo and chirp. Its song is a chord or two and a long trill on the insect letter, z. It is sung, to the eye, with a hearty abandon of joy, the head thrown back and mouth open, in a fine pose of ecstasy; yet, unless all around is

still, and you listen with attention, not a sound will you hear, so small and fine are the vibrating tones. It is said, in a story of the Highlands, that on certain nights, if a man will but lay a couchant ear close to the breast of the earth, he may hear the fine, fine piping of the fairy tunes played in the underworld. Our bird's song is one of these faint, sweet voices of the earth, like the music that breathes from every clod or leaf when the old world lies dreaming and dozing in a bit of holiday after work is done on a warm, sunny afternoon in autumn, a musical, tremulous, sweet piping everywhere.

Yet not one of these small creatures is forgotten before its Father. When the frost is in the air, and winter is near, the Divine impulse stirs in its breast, and its little wings will bear it far, far away in the long, mysterious journey over sea to the warm islands of the Atlantic. There it will sing for joy with its fellows in the sun, but when April returns, look well. Is there not a stir in the short grass? And listen. The faint, dream-like thrill throbs again in the throat of the sparrow, and our ground-dweller has returned. It is a parable of God's care for His little ones.

ELLA F. MOSBY.

SONG OF THE STORMY PETREL.

When in the hollow of His hand
All calm doth lie the deep,
Alone and out of sight of land,
Upon the wave I sleep;
Above, the sun resplendent shines;
Beneath, old ocean heaves;
I feel alike the smile of heaven
And some great heart that grieves.

I drift afar by sun and star;
I care not where I be
So long as throbs the giant flood
Of ocean under me.
The ancient sea my brother is
And well I know his moods;
For everywhere with him I fare
Throughout his solitudes.

I lay my heart unto his heart,
I soothe him with my wing;
I kiss the tide as I were bride,
And to him low I sing.
He speaks to me of mystery,
Of days when he was young,
Of sorrows old, of tales untold
By any other tongue.

I listen, yearn, and much I learn
Of nations now no more,
Of wrecks that sleep down in the deep
Or strew the rocky shore;
Of how grim Time makes him to mar
Whatever coast he laves.
Of how the sea he makes to be
So full of nameless graves.

Since goaded long by lashing winds,
He rushes forth in ire,
And welds as one the ships of Clyde
With those of crumbled Tyre;
And swallows down the king and clown
With equal appetite,
And hides them all, both great and small,
In his wide tombs of night.

Then screaming I above him fly
And hasten where he roars,
Within my breast the same unrest
As his proud bosom gores.
A thousand leagues I go with him
And glory in his power,
A thousand leagues I herald him
Through many a sleepless hour.

Then, calmer grown, we dream again,
And in some distant zone
A little season are as one,
Untroubled and alone.
For I am brother to the sea
And where he goes go I,
And when at last my days are past,
Within his breast I lie.

And I shall ever haunt his paths
About this aging earth,
And he to me, and I to him,
Shall sing of woe and mirth
Until gray Time shall be no more,
And every wave that weeps
Has learned to laugh and laughing, thrills
The bosom of the deeps.

—C. G. B. in "*The Chicago Record*."



THE SPIDER MONKEY.

(*Ateles hypoxanthus*.)

With his native guides a gentleman was traveling one day through one of the wonderfully luxuriant tropical forests of eastern Brazil. They had left the Amazon river and had come southeast to the province of Maranhao, where the roots, grasses and plants sometimes weave themselves into vegetable bridges so solid that a man may go some distance without discovering that he has left the firm earth.

They had just passed over one of these natural bridges and had evidently reached the edge of the hidden pool, as they came to a dense growth of rosewood trees, and there they saw a most unique and peculiar sight. The gentleman, being a stranger in Brazil, exclaimed with astonishment, for hanging from the branches by their tails only, were a whole troop of monkeys.

They were of slender build, with long, thin, sprawling limbs and small heads, and they were indeed a most laughable and comical sight.

As soon as the gentleman recovered from his surprise he fired upon the troop and succeeded in slightly wounding one which so maimed it that, uttering a loud yell, it fell to the ground and he was able to secure it. The others, frightened, quickly vanished, for their movements were of surprising agility; they threw their long limbs about in the queerest sort of a manner, using their tails in climbing more than their limbs, seeming to feel their way with the tip of the tail and finding a place for support, they swung themselves rapidly to the extreme tree tops and were out of sight in less time than it takes to describe their flight.

When the troop could no longer be seen the gentleman examined his wounded captive and from what he knew of the characteristics of the ape family, to which all monkeys belong, he decided that without question he had secured a specimen of the Spider Monkey.

It was a young mother and the baby

monkey was clinging to her with its little arms around her neck and legs around her hips in a way not to impede her motions.

She was carefully examined by her captor and he soon decided that the wound was not dangerous and that with care he might be able to take her with her baby back with him to the United States.

So she now received the best of care. She was secured with a rope attached to a bit of silken handkerchief which was carefully fitted to her leg and soon recovering (for her captor was a skillful surgeon) she became the pet of the company.

In length she was about four feet four inches and she was covered with a dull yellowish woolly fur. Her face was quite brown, which proved that she was still young, for the face grows dark gray in old age. In examining the forepaw, in order to find a thumb, nothing was there except a short stub devoid of a nail; her nose was broad and flat and she had thirty-six teeth.

Surely she was a Miriki Spider Monkey and a fine specimen at that, but as this variety is usually found only farther south in Brazil, her captor was especially pleased to secure her.

It would take a long time to narrate all the interesting things which one could say about her, but I must tell you what a devoted and lovely mother she was to her helpless little baby. It was as funny a little thing as you can imagine, ugly as possible, with proportionately long arms and legs and a face so old looking and wrinkled that it reminded one of an antiquated grandfather rather than of an infant monkey. She would continually pet this little monster, lick its body, hug it and fondle it; she would hold it in both hands as if admiring it and then would rock it to sleep in her arms. The children of royalty could not have more tender care and attention than the little Brazilian monkey gave her offspring.

As it grew she allowed it a little freedom, and usually it was very docile, obeying her every call; but when disobedient she would slap it and give it a box on the ear; but this seldom happened, for a monkey child is a model child and might serve as an example to many human children.

But I think you would have found it extremely odd could you have seen her eat. She would frequently take fruit, or anything offered, with her long, prehensile tail and curling the end around the object, would convey it to her mouth. She would eat almost everything eaten by her captors, but would not reject an occasional insect, spider, or even a young bird.

Happiest when permitted to hang on the tree boughs, she would drink from the overhanging branches without touching the ground. In fact she was only perfectly at home when climbing around the trees, as she was comparatively awkward when on the ground, walking on all fours in a somewhat clumsy manner. Like all Spider Monkeys, she was of a gentle, teachable disposition, for all South American monkeys lack many of the mischievous and disagreeable traits of their African cousins, though as a rule they

are not as bright and vivid in color and are duller and more indolent in their nature.

On the other hand the American monkeys do little damage to man, for the vast forests which form their home (they are found in the warm countries of Mexico, Central and South America, and never in a very high altitude) provide for them so fully that they have no need of man's help. The natives depend very much on monkey meat as a food and hunt them with bow and arrows, while travelers are often obliged to subsist upon monkey roasts for weeks together and do not find them very bad fare.

Aside from the Miriki Spider Monkey, of which our little mother was so interesting a specimen, the traveling party from time to time encountered other species of the Spider Monkey, of which there are many. All have similar characteristics but vary somewhat in size and color.

You will be interested to know that the monkey mother and her funny baby were finally brought in safety to the United States, where as far as I know, they are still living and are happy and much treasured pets.

JOHN AINSLIE.

NOVEMBER.

Though I sorrow it to say,
November is a churl alway,
Miserly, beside the fire,
Just outside the echoing choir,
Sits he peevishly, and ponders
On this life and all its wonders,
Hearing through the grudging screen
Organ notes, that slip between
Prayers for dead men and dead hopes,
While the priests, in 'broidered copes,
Sing to heaven; yet not for him
Goes up the incense or the hymn.

Fie, November!

—Walter Thornbury, "The Twelve Brothers."



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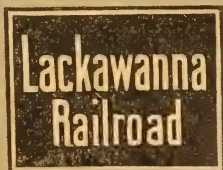
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The Library Shelf

By WALTER TAYLOR FIELD

THE literature of country life, which during these latter days is growing so large and so persuasive, voices a distinct tendency to return to nature. For years the tide of human migration has been toward the cities, until we are confronted with the problem of abandoned farms and crowded tenements. Cities are known as the places where fortunes are made. The elusive hope of getting more money for less work has drawn many a man away from a happy and healthful life on a farm, and has shut him up among brick walls, with no playground for his children but the street and no sunshine but that which struggles down a whitewashed light shaft. He has lost his independence and has become part of a great human machine, soulless and unresponsive.

A new book on this very practical subject, by Mr. Bolton Hall, bears the suggestive title "Three Acres and Liberty." It is a plea for the small farm, not isolated in the remote country, but near enough to the town to be on friendly terms with it, and to find a market for the fruit and "garden truck" which three acres will produce. It is a plea for *intensive* farming, and is altogether as sensible a presentation of the case as has yet appeared. It is both philosophical and practical, containing good economics as well as sound advice.



SPEAKING of gardening, one of the most artistic and attractive books to the lover of gardens—and who of us do not love them—is "Ye Gardeyne Boke," from the press of Messrs. Paul Elder & Company. It is a volume of quotations, embracing the wisest and wittiest and most appreciative things that have been said on this subject in all ages. Miss Jennie Day Haines has selected the excerpts and Mr. Spencer Wright has furnished a scheme of decorative borders and title page which add greatly to the attractiveness of the volume. The gardens referred to extend from Eden to the present. Bacon said, "God Almighty first planted a garden and indeed it is the purest of human pleasures." Addison believed that a garden would "fill the mind with calmness and tranquility and lay all its turbulent passions at rest." Spenser showed keen delight in the

"* * * walkes and alleys dight

With divers trees enranged in even ranks,"

and, more recently, Tennyson celebrated with genuine feeling "Maud's" garden, where

"the woodbine spices are wafted abroad
And the musk of the rose is blown."



BUT perhaps the most sumptuous of the season's nature books is "The Log of the Sun," a beautifully illustrated volume of short essays, fifty-two in number, one for each week of the year, by Mr. C. William Beebe, Curator of Ornithology in the New York Zoological Park. Mr. Beebe is well known through his books on bird life, and his articles on various phases of nature study, which have appeared from time to time in the magazines.

(Continued on page III)



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We have recently begun the publication in very inexpensive form of a series of Juvenile Nature Books under the title "Life and Nature Series." The cover design by Hapgood is in two colors, and the books are unusually attractive even at double their price. Four books in the series are now ready.

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The Library Shelf

(Continued)

A number of the essays in this volume have already been published in "Outing," "Recreation," and other periodicals. They begin with the first week in January and form a progressive series, touching upon the sights and sounds which greet the nature lover as he walks abroad from week to week. Snow crystals, wild creatures—then springing blades and flowers—and especially birds, for the author is an enthusiastic bird-lover and emphasizes the fact that there is no season in the year when we may not find our feathered friends—if not robins, then juncos and chickadees and snow buntings, which are equally interesting in their way. Not the least valuable and attractive feature of the book is the illustrations in color by Mr. Walter King Stone, which are exceedingly decorative and, with their broad masses of blue and white, quite suggestive of the Japanese. The book opens, unfortunately, with a misquotation from Professor Caruth's little poem, "Each in His Own Tongue."



A NEW impression of "Birdcraft," by Mabel Osgood Wright, has recently appeared, with some revisions and additions. This is a book which for nearly twelve years has been the *vade mecum* of many an appreciative nature student—of that class who, with Emerson, can "name all the birds without a gun." In its terse and admirable descriptions of our North American birds it has not been surpassed by any of the more recent books on the subject, though its illustrations are not always characteristic, and are in some cases actually misleading. Those of the bluebird and the robin are examples of a tendency which appears in many of the pictures, to shorten the length of the bird, throwing it out of proper proportion. The proportions of the bluebird seem to be about those of the chickadee. Again, although the length of each bird appears in figures beneath the engraving, it gives one a start to see on the same page, the cowbird and the purple grackle apparently of the same size, or within a few pages of each other the sparrow hawk larger than the osprey. If the illustrations were more exact and in color, the book would be an almost ideal manual.

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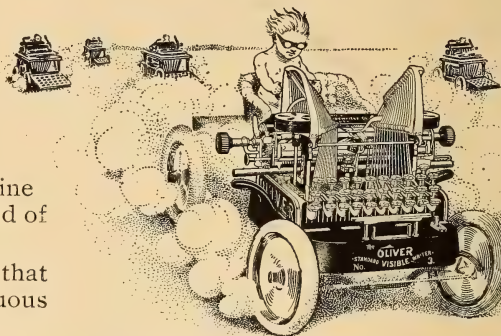
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BIRDS & NATURE MAGAZINE, Publishers

350 Wabash Avenue, Chicago

Monthly, Except July and August

\$1.50 a Year. 20 Cents a Copy

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The Editor's Latch String

An Invitation

WE have hung out our "latch string" because we want you to pull it. If you live so far from Chicago that you cannot accept our invitation literally, we should be delighted to have you "drop in" with our morning's mail. What you have to say would be just as keenly appreciated in a letter as if you brought the message in person. In any case don't forget the invitation. We want your advice, your suggestions, your criticisms, and your appreciation—if we are fortunate enough to deserve it. If we can spare the space we are going to let this invitation hang directly under our "latch string" each month—so you won't forget!

An Explanation

IN making plans for the new "Birds & Nature Magazine" we needed time to "turn 'round." The March number was omitted altogether. The April number was very late and was the last to be issued over the old name. This May number indicates a starting point from which we hope to journey in the direction of the "City of Our Ideals." We long ago gave up hope of ever reaching it, but they tell us that the suburbs are very pleasant. In any case we shall keep on journeying—and with your consent we'll travel together. All subscriptions to "Birds & Nature" will be moved along one month so subscribers will get ten separate issues for which they subscribed.

An Expectation

WITHOUT promising or prophesying we would like to make a few remarks as to what you may expect of us during the coming year. "Birds & Nature" has always had a loyal band of followers who have been subscribers from Volume One, Number One. Probably no other magazine of equal circulation has sold so many complete sets of the bound volumes. This indicates that it is of permanent value. Nowadays, people do not bind their magazines unless they are worthy of a lasting place in their library.

We believe we see in the magazine field an unoccupied niche of large proportions

which we shall endeavor to make "Birds & Nature Magazine" fill. There are many and beautiful magazines devoted to "country life" and "suburban life," to "gardening" and "shooting" and the other sports. "Birds & Nature" will be primarily a Nature magazine. Everything beautiful or wonderful or interesting in the world of Nature is within its field. While all its articles will be entertaining, they will also be instructive. They will interpret Nature for the Nature lover, the casual reader, the school teacher, and for boys and girls who look upon "God's Out-of-Doors" with such keen and wondering eyes.

Each issue of "Birds & Nature Magazine" will be illustrated with beautiful halftones as well as with eight of the Nature plates in natural colors, which have made the magazine famous.

A Trial Subscription Free!

IF you would like a "trial subscription" to "Birds & Nature Magazine" for the trouble of writing one letter to us, and the cost of a two cent stamp, then you would better turn to page 7 of this issue for full particulars.

Our Colored Pictures

WE furnish the colored pictures in this issue, printed singly on 7x9-inch stock. We have the largest collection of these plates (648 subjects) in the world, and can supply prints from them to individuals, publishers or schools, for any purpose whatsoever. The prices are as follows: 2 cents each, \$1.80 a hundred, \$15.00 a thousand. We will forward a complete set of these 648 pictures for only \$8.10.

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IF we are able to make this the most beautiful Nature magazine published, we must have your co-operation in the way of Nature photographs, and short sketches, and articles full of incident and action. Tell us what *you* have seen with your own eyes. We shall be glad to pay for both photographs and manuscripts which prove available.



BLUEBIRD.
Sialia sialis. (Linn).
Life-size.

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Birds & Nature Magazine

Vol. 1—No. 1
Old Series: Vol. 20, No. 4

MAY, 1907

Price 20 Cents
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How the Blue Birds Came Back

By ELIZABETH and JOSEPH GRINNELL

YESTERDAY the snow melted from the top of the great rocks in the woods; the evergreens shading the rocks lost their white load that had been bearing down the branches for a month; the fences straggled their lean legs wide apart, as if it were summer, only the tips of their toes resting on the surface snow; the north roof of the barn fringed itself with icicles that tumbled down by noon, sticking up at the base of the barn in the drifts head foremost; the top dressing of white powder that for weeks had adorned the woodpiles sifted down through the sticks in a wet scramble for the bottom.

But yesterday the south wind puckered up its lips and blew all over everything in sight. The sun shines across the dooryard as it hasn't shone for so long, making a thin coat of mud just at the edge of the chips and around the doorsteps. But what matters? The children run in and out, tracking up the clean floors, taking their scolding with good cheer. Isn't spring here? and don't they hear the bluebird's note in the orchard?

Run and put up some more little boxes on the shed and the fence-posts. Clean out the last year's nests in the hollow trees. Tell the old cat to "keep mum" and "lie low," or she will be put in a bag and dropped to the bottom of the very first hole in the ice. Cats are all right in the dead of winter, when Old Boreas is frantic in his annual mad fit. She can sit on the rug and purr to her heart's content; but when the bluebirds come, if she bethinks

herself of the fact, and sharpens her claws against the trunk of a cherry-tree, she would better look out. From the orchard comes a soft, agreeable, oft-repeated note, there is a quivering of wings outspread, and "he" is here. There may be only one or two or six singers. They have left the lady bluebirds in a safe place until they are sure of the weather. If the outlook be bad to-morrow, the birds will retire out of sight and wait for another warm spell. But spring is really here, and the good work of the sun goes on. In a day or two the lady birds appear modestly, of paler hue than the males, quiet, but quick and glad of motion.

Little by little, and by very winning ways, does this gentle blue courtier pay his suit of Miss Bluebird. A chance acquaintance sidles up to the same branch on which the two have been sitting. Bluebird courtier likes him not; he will have no rival, and so he drives the intruder away as far as the next tree, returning to his sweet and singing a low warble about something we do not understand. Probably he is giving her to understand that he will look to the



Bluebird Babies Look Alike

family supplies, and in all things that pertain to faithful affection will prove himself worthy of her. She consents, taking his word for it, and they set about the business of the season.

Now they must hurry or the wrens will come and drive them out of house and home. One of the bluebirds remains in the nesting-place, or very near it; for if the house be empty of inmates, the wrens make quick work of pulling out such straws and nesting material as have been gathered.

It may be that a cold snap will come up in a driving hurry after the nesting is well under way. In this event the birds will disappear, probably to the deep, warm woods, or the shelter of hollow trees, until the storm be past, when they will come again and take up the work where they left off.

This sudden going and coming on account of the weather has always been a mystery to those who study the bluebirds. Some imagine they have a castle somewhere in the thickest of the woods, where they hide, making meals on insects that love old, damp trees. Caves and rock chambers have been explored in search of the winter bluebirds, but not a bird was found in either place. They keep their own secrets, whether they fly far off to a warmer spot, or whether they hide in cell or castle.

If the work is not anticipated by human friends, and the nesting-places cleaned out in advance of the birds, they will tidy up the boxes themselves, both birds working at it. What do they want of last year's litter with its invisible little mites and things that wait for a genial warmth to hatch out? House-cleaning is a necessity with the bluebirds. When the nest is done it is neat and compact, composed of sticks and straws with a softer lining. The birds accept what is ready to hand, making no long search for material. Being neighbor to man and our habitations, it uses stable litter.

The three to six pale blue eggs contrast but slightly with the mother's breast. The little ones grow in a hurry, for well it is known that more broods must be attended to before summer is over. Sometimes the nest is placed at the bottom of a box or passageway, and the young birds have difficulty in making their way to freedom. The old birds in such a case are said to pile

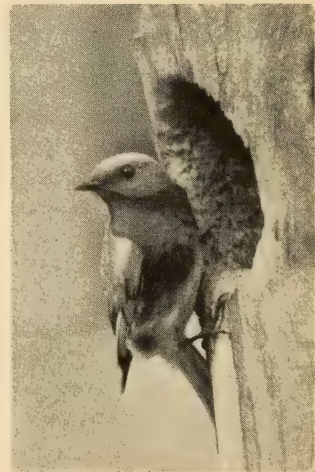
sticks up to the door, and the little ones walk up and out as if on a ladder!

The mother soon takes to preparing for another brood, and the father assumes all the care of the young just out, leading them a short distance from the mother, and teaching them to hunt insects and berries. The little ones are not blue, as any one may see, but brown with speckled breasts. These speckled breasts of young birds are fashionable costumes for many other than bluebirds. They remind one of infantile bibs, to be discarded as soon as the young things eat and behave like their elders.

The bluebirds are good neighbors, never quarreling nor troubling other birds. In the late fall his note changes to a plaintive one, as if he were mourning for the dear, delightful days of summer-time and nursery joys. It is now that he, with his large family, may be seen on weed stalks in the open country, looking for belated insects and searching for beetles and spiders among the stones.

In darting for winged insects the bluebird does not take a sudden flight, but sways leisurely, as if he would not frighten his treasure by quick movements.

The bluebirds are the morning-glories of our country. They are companions of the violet of spring and the asters in autumn. They belong to the blue sky and the country home and the city suburbs.



"Hello!"

At Her Own Front Door.

The Value of Nature Study

By CLIFTON F. HODGE

ON THE side of educational values in building up sound brain tissue and mental power, the school should yield to Nature, "the Old Nurse," so far as possible, the position she has held in the education of the race. Clearly, this relation is that of active response in direct, first-hand contact with Nature. Doing something with Nature has ever formed a large factor in education, of which nothing can take the place. This alone, as Froebel says, can prevent education from becoming hollow and empty, artificial, and a wholly second-hand affair.

With a distrust in "book larnin'" that has become proverbial, it is strange that it has been allowed to dominate the school curriculum so completely. This danger is not so widely recognized that it is unnecessary to dwell upon it, and, while some of our best plans of elementary science teaching aim to bring Nature and the child into direct contact, much remains to be done by way of deciding what to bring to the child and what sort of contact, relation, or association it is best to form. Upon these two things depend largely the quality of knowledge and texture of mind that education yields to the child. Two important conclusions must be borne in mind. These are, first, that quality of knowledge depends upon the ideas with which it is associated in the mind; and, second, that the strongest associations are related to the spontaneous activities of the individual. That is, for elementary study we must select those things that stand in fundamental associations with life and about which the children can find something worth while to do. In connection with it we must lay special stress upon the fact that the highest type of spontaneous, whole-souled activity cannot be developed about trifling or worthless things. "Give children large interests and give them young." This motto of Alice Freeman Palmer may well be used in deciding whether a topic should be admitted to the nature study course. Will it form or help to form an important, life-long in-

terest—an interest not technical or superficial, touching life only on the surface, here and there and at long intervals, but one that lies close to the heart, to the home, and to all that makes life worth living. The value of such an interest is inestimable. It may add a sparkle to the eye, elasticity to the step, and a glow to every heart beat, and be the most efficient safeguard against idleness and waste of time, evil, and temptation of every sort. The love of something worthy and ennobling is a passport the world over, for "All the world loves a lover." To find such an interest. To find such an interest in some worthy nature-love is to discover the foundation of youth.

Nature is the great mother of such interests, and in proportion as education becomes thus alive and active, nature study must form a prominent factor in the curriculum. What is there for the whole child—hands, feet, eyes, ears and brain, mind and soul—to work with actively, except phenomena of nature, responses to which have constituted the chief education of living forms through all time? Language has grown up out of and around the things of Nature to such an extent that even our common school reading and writing is little more than a hollow mockery without the fundamental nature study to give it life and content; and much of our best literature must fail to be appreciated if its allusions to nature are not properly sensed.

But, after all, childhood—active, fresh, spontaneous childhood—and its need of the normal environment for growth and vigor, supplies the imperative demand for a natural and active nature study. Truly, "trailing clouds of glory do we come"; and when we discover the right way, there shall be no "shades of the prison-house" to "close upon the growing boy." In rare cases now we find the charm of childlikeness, the open interest and rapid growth, extending on through boyhood and to the end of old age. When we learn to educate normally, this

Grasshopper Roast



What is "Book Larnin?"

may become the rule rather than the exception.

The term nature study is being much abused at present, but I hope I may be rightly understood when I say that the key to the solution of this problem is original research. The mind seeks for truth as the body for food. Search is a primordial element in all life, in all education. Cut this out and you have parasitism and degeneration of the higher functions. Everything that lives, from the amoeba seeking for food to the artist or the scientist in search of beauty and truth, spends the best effort of life in just this thing—search. Witness the way the infant learns during the first years of life, the incessant activity and infinite delight and wonderful rapidity with which it reaches out into the unknown of Nature around it. Let us study how we may continue this splendid process of growth through all the years of school life. To do this we shall need nature at every turn, and the result will be a living, active, creating mind instead of a helpless parasite.—*"Nature Study and Life."*

AMONG the choice delicacies with which the California Digger Indians regale themselves during the summer season is the grasshopper roast. Having been an eye-witness to the preparation and discussion of one of their feasts of grasshoppers, we can describe it truthfully. There are districts of California, as well as portions of the plains between the Sierra Nevada and the Rocky Mountains, that literally swarm with grasshoppers, and in such astonishing numbers that a man cannot put his foot to the ground, while walking there, without crushing great numbers.

To the Indian they are a great delicacy, and are caught and cooked in the following manner: A piece of ground is sought where they most abound, in the center of which an excavation is made, large and deep enough to prevent the insect from hopping out when once in. The entire party of Diggers, old and young, male and female, then surround as much of the adjoining grounds as they can, and each, with a green bough in hand, whipping and thrashing on every side, gradually approach the center, driving the insects before them in countless multitudes, till at last all, or nearly all, are secured in the pit.

In the meantime smaller excavations are made, answering the purpose of ovens, in which fires are kindled and kept up till the surrounding earth, for a short distance, becomes sufficiently heated, together with a flat stone, large enough to cover the oven. The grasshoppers are now taken in coarse bags and, after being thoroughly soaked in salt water for a few moments, are emptied into the oven and closed in. Ten or fifteen minutes suffice to roast them, when they are taken out and eaten without further preparation, and with much apparent relish, or, as is sometimes the case, reduced to powder and made into soup. And having from curiosity tasted, not of the soup, but of the roast, really, if one could divest himself of the idea of eating an insect as we do an oyster or shrimp, without other preparation than simple roasting, they would not be considered very bad eating, even by more refined epicures than the Digger Indians.



The Bird in the Tailor-Made Gown

A STUDY IN POLITENESS

IF we were to accuse any bird of wearing a tailor-made gown, it would be this trim, dainty waxwing. The modest, unruffled beauty of the plumage makes it a general favorite. Can you imagine a softer or prettier combination of browns? How tastefully its sober tones are picked out here and there by brilliant bits of color! The scarlet tips of the wing feathers, the yellow edging of the tail, the touch of white under the eye and the black bar through it. Could old Polonius, in *Hamlet*, have hit off better the dress of the waxwing than he did the attire to be preferred by his son Laertes? "*Costly thy habit as thy purse can buy; Yet, not expressed in fancy; rich, not gaudy.*"

The conspicuous crest of the waxwing, slightly raised in the picture, together with the black and white about the eye, give him an animated, wide awake appearance, yet he is not noisy nor active nor quarrelsome. On the contrary, he is a genteel bird, as quiet, moderate and well-behaved as he is well dressed. Occasionally they seem to overdo the "after you, my dear Alfonso" act as is shown by the following observation narrated by Mabel Osgood Wright in *Birdcraft*.

"Last May a flock of fifty or more lodged for a whole morning in a half-dead ash tree near the house, so that seated at ease I could focus my glass carefully, and watch them at leisure. They were as solemn as so many demure Quakers sitting stiffly in rows; once in a while they shifted about, and seemed to do a great deal of apologizing for fancied jostlings. Their movements interested me greatly, until finally, to my surprise, I saw an illustration of the old story of their extreme politeness in passing food to one another, which I had always regarded as a pretty bit of fiction. A stout, green worm (for they eat animal as well as vegetable food) was passed up and down a row of eight birds; once, twice it went the rounds, until half way on its third trip it became a wreck

and dropped to the ground, so that no one enjoyed it."

The waxwings live in flocks except during the breeding season. They live chiefly on wild fruits. In winter they are most commonly seen in the mountain-ash trees feeding on the berries. They are fond of the buds of the elm and often the walk under a feeding flock is sprinkled with the bud-scales that they have rejected. The young are fed on insects, during the breeding season; therefore, the waxwings are valuable assistants on the farm as bug-exterminators. They are expert fly-catchers. Taking up a position on some commanding limb or tree-stub, they dart off into the air after a passing insect, returning to the same perch time after time, after the fashion of the pewee and phoebe.

The waxwings know as well as the farmer when the early cherries are fit to eat and they help themselves so freely that they have earned the unfortunate name of cherry-bird and with it the farmers' ill-will. The name is unfortunate because people who know him by that name only would naturally think him to be a bad bird, whereas his habit of eating injurious insects makes him one of the desirable birds.

As the waxwings do not seriously harm the late cherries, but prefer the wild ones and other wild fruits then in season, it would seem that they take the early ones not so much from choice as from necessity. Perhaps they feel about the wild cherry as Mr. Henry van Dyke feels about "That concentrated essence of all the pungent sweetness of the wildwood"—the wild strawberry; "Doubtless God could have made a better berry, but doubtless God never did."

Sitting in a tree-top one after another whistles his faint little "Nay, nay," that may be heard hardly more than two hundred feet. Suddenly the flock takes wing and they send forth, almost in chorus, a rapid succession of, "Yea, yea, yeas."—*Wisconsin School Bulletin*.

Bird Portraits

A Study in Character as Shown by Heads and Necks of Birds

By C. WILLIAM BEEBE

THE head of a bird is indeed a wonderful object, when we consider its comparatively small size and realize that it contains the brain, as well as being the seat of the five senses. It also

pelled to turn its head and look sideways. As birds spend so much of their time in the air, or in trees, where danger may threaten from all sides, above or below, this arrangement is most useful to them, giving them command of almost their whole surroundings, whereas, without turning the head, we can only see ahead of us. In much the same relative position, the two ears are placed, and the absence of a directive outer ear renders the bird susceptible to sounds coming from every direction.

Owls, for very obvious reasons, are interesting exceptions to the above statements.



Portrait of a King Vulture

Showing the bare head, the open nostril and the powerful beak and jaw. He has no head plumage to be soiled in his scavenger work, the brightly colored wattles taking its place.

supports that important organ, the beak, which takes the place of hands and tools in the life of its owner.

Of expression, with the exception of that caused by raising its feathers, the bird has little. Fear, however, which must needs be expressed all too often in the life of a bird, is made apparent by the dilating eyes and the open, panting beak. The only exception which comes to mind is the crowned crane, the suffusing of whose bare, white cheeks indicates the changing emotions.

The eyes of most birds are placed at the sides of the head, in such a position that the bird cannot bring both to bear simultaneously upon the same object, but is com-



Portrait of a Well Bred Rooster

Showing an extreme development of the comb and wattles.

Living most of their active life at night, playing always the role of pursuers, these birds have few enemies to fear. Their subsistence depends upon the keenness of their senses when focussed in one direction—downward. When its strong, soft-feathered

pinions carry a mousing owl over field and stubble, the head, like the nose of a hound, is held low, and, that not a rustle nor a motion of the little field-mice may be lost, the ear-openings are turned downward and the eyes look full upon the ground. Look a barn owl in the face and you will see the entire circumference of both eyes, but a dove—one of the *pursued* in life's race—shows in the front view only the profile of the eyeballs. The same story is told in the eyes of the fox and the rabbit—examples of nature's parallels, which are never repetitions.

Another adaption found in the eyes of almost all nocturnal birds is the great size of the orbit, fully one half of the skull being hollowed out to receive the eyeballs. No degeneration of the eyes, as a result of noc-

turnal habits, is recorded among birds, such as exists in moles and bats.

Although eyelashes, as we understand them, are merely stiffened hairs which have been inherited from hairy-coated ancestors, yet among birds we sometimes find lashes similar in appearance and function, but structurally derived from feathers. The ostrich has well-developed eyelashes, which must be of value in helping to exclude the dust of the desert; but why such birds as hornbills and the Seriema should possess them we cannot say.

Most, if not all, plumes and crests on birds are probably ornamental, and, since many are more highly developed in the male sex and at breeding-time, we must conclude that they are of value in attracting and holding the attention of the females



Portrait of a Demoiselle Crane
A Dandy in Every Line.

tural habits, is recorded among birds, such as exists in moles and bats.

The eyes of the woodcock show an interesting adaptation to its habits. The bird feeds at night in marshes, probing the mud for worms, and, being in frequent danger of attack from owls or other foes, it has need of constant vigilance. So we find that its eyes, which are large and lustrous, are placed far back on its head, and also up near the top of the skull. Useless in guiding the bird in its search for food, they have become altered in size and position, and so best fulfill their function of aiding their

during the period of courtship.

What a list of these crests we may compile in a walk through a zoological park! The photographs show the grace and delicacy of these feathers, to which words can add nothing. Concealed crests bring to mind the Kingbird and the Ruby-crowned Kinglet, both of which derive their names from their crowns of ruby. It is said that the former bird is aided in its search for food by the bright spot of color which, flower-like when exposed, attracts insects. This, however, should be confirmed before being accepted as a fact; although in, a



Portrait of Hooded Merganser Duck
A Halo of Delicate Feathers for Ornamentation Only.

tropical flycatcher, which has a beautiful red and purple transverse crest, the evidence of this novel use seems fairly well corroborated.

As the antithesis to this condition, we find many birds which have the head partly or entirely bare of feathers, such as the vultures and some of the waders. In the former group this lack of feathers is doubtless of value in enabling the birds to avoid soiling their plumage, when engaged in their scavenger work. The great Condor of South America has, just below this naked area, a necklace of the whitest of fluffy down, and in addition the male has a large wattle of skin upon the front of the head. Wherever the skin of the head and neck is partly bare, ornamentation often takes the form of many-shaped and often highly colored whistles, such as we see highly developed in a King Vulture.

The length of the neck of birds is often correlated with that of the legs—a long-legged bird of necessity requiring a long

neck to permit its bill to reach the ground. Geese and swans are an exception, and in their case we find that the long, mobile neck is of great use in making up for the awkwardness of their waddle when on land, and in allowing them to reach beneath them while floating in shallow water, thus feeding along the bottom.

Herons are uniformly so light of body that they would have difficulty in steadying themselves in the air, were it not that, when in flight, their necks become compressed to an incredible thinness, thus acting as does the cut-water of a ship's prow. The perpetual crook in the necks of these birds is significant of their method of fishing—a patient watch until the prey comes within striking distance. In the snake-bird this crook, or Z-shape, has, by the adaptation of three of the neck bones, become a veritable trigger, by the springing of which the bird literally spears the fish.

A realization of the more immediately practical uses of such structures as the cassowary's horny helmet, the feather shield of the Ruff, perhaps the crest of the King-bird, and many others as yet unknown, will impel amateur observers to further efforts in the investigation of the life-habits of birds.—“*The Bird.*”



Portrait of an Adjutant
A snake eating crane, a native of India. Notice the enormous pouch at his throat.



CATBIRD.
(*Galeoscoptes carollnensis*).
¾ Life-size.

PUBLISHED BY ATKINSON, MENTZER & GROVER, CHICAGO

The Cat Bird

By JOSEPH and ELIZABETH GRINNELL

HE is not always the cat-bird, O no! He is one of our sweetest singers before day has fairly opened her eyes. Before it is light enough to be sure if what one sees be a bird or a shadow, the cat-bird is in the bushes.

Singing as he flits, this early riser and early eater passes from bush to bush on the fringed edge of morning, conscious of happiness and hunger. With a quaint talent for mimicry he tries to produce the notes of other birds, with partial success; giving only short snatches, however, as if afraid to trust himself.

In the hush of evening, when the cricket's chirp has a drowsy tone, the cat-bird makes his melody, each individual with cadences of his own. Now like a thrush and now like a nightingale, he sings, though he is not to be compared with the mocking-bird in powers of mimicry. Yet his own personal notes are as sweet as the mocker's.

But, like most persons, he has "another side," on which account he came by his name. And his mate is Mrs. Cat-bird as well, for she, too, imitates the feline foe of all birds, more especially at nesting-time.

There is a legend to fit the case, as usual. The bird was once a great gray cat, and got its living by devouring the young of such birds as nest in low bushes.

All the birds met in convention to pray the gods they might be rid of this particular cat.

As no created thing may be absolutely deprived of life, but only transformed into some other being, this cat was changed into a bird, henceforth doomed to mew and scream like a kitten in trouble.

Its note long since ceased to have much effect upon the birds, who seldom mistake its cry for that of their real enemy in fur and claws.

Not so its human friends, for it takes a fine ear indeed to distinguish the bird from a cat when neither is in sight.

Now this bird, doomed, as the superstition runs, to prowling and lurk about in dark places near the ground, seldom flies high, nor does it often nest in trees. This does not prevent the singer from exercising his musical talents, however, more than it does the meadow-lark or the song-sparrow.

It is in midsummer that the cat-bird is best known as the bird that "mews." Then both birds, if one approaches the nest, fly at the intruder, wings drooping, tail spread, beak open, whole attitude one of scolding anger.

In this mood the bird fears nothing, even making up to a stranger, and pecking at him. If it would pass with the waning summer and the maturing of the young birds, this bad temper of the cat-bird would be more tolerable; but once acquired, the habit clings to it, and it may be that not till next winter will it get over the fit.

The favorite site of the cat-bird for nesting, as we have observed it, is the middle of a patch of blackberry bushes, so dense and untrimmed it would be impossible for any one save a bird to reach it. Even the parent bird must creep on "all twos" or dodge along beneath the briers. We have known it to build in a thick vine over the door.

The cat-bird and brown thrasher were always together in our Tennessee garden; each fearless, nesting near the door, eating the same food, but differing in personal habits. The cat-bird's nest was in the blackberries, the thrasher's in the honeysuckle. We often borrowed the young thrashers for exhibition to our friends in the parlor. After the first time or two the parents did not care, but watched quietly

from the vine for the return of their darlings.

The cat-bird neighbor, always prying about, took note of our custom and played "spy" in the honeysuckle. At the first opening of the door out peeped a black beak, from which proceeded the familiar cat-cry we had learned to not heed. Paying no attention to this self-appointed guardian of the little thrashers, we took them into the parlor, where they would remain for half an hour.



Catbird Twins
"We Live in Hope."

All this time the cat-bird kept up its mewling and screaming at the door, outside, nor did it cease until the birds were placed back in the nest.

The custom of the cat-birds everywhere to play the detective, and sound the note of warning in behalf of all other birds, is well known. Is there danger anywhere, they rush to the rescue with imploring cry, setting up a great agony of sound and posture, very ludicrous if not pathetic.

And the poor cat-bird is always at swords' points with the farmer. Scarecrows a plenty deck the orchards and ornament the gardens. More do these historical and sometimes artistic beings serve to ease the farmer's conscience than to intimidate the birds; for it is well known that cat-birds thrive best under the grotesque shadows of the scarecrow. And the more horrible of face and figure are these individuals created the more are they sought after by the very birds they are intended to scare out of their wits.

It will probably take another generation of fruit-men to wake up to the fact that these and other birds habitually mistake the scarecrow for a guide-board to "ways and means," or a sign for "home cooking."

Would the farmer stop when he has finished the very worst scarecrow he can conjure up out of last year's trousers and coat and hat and straw from the bedding mow, the birds would have fair play. But the shot-gun, alas! picks off the poor little mew birds almost as fast as he himself picked off the berries an hour before, and so the farmer is accused of having "no heart."

But the farmer's boy of the bare feet and brown legs loves the funny bird. He will sit for an hour near its brier-bound nest, chuckling at its screams and gestures, and wondering "why it isn't a cat for good and all."



The Coming of Spring

ONCE more Spring's dear, remembered thrill
The Winter's heart went through.

Out came the willow silverly
And white the shadblow blew.

A little meadow that I know
Ran suddenly to gold,
Till every lifted buttercup
Had more than it could hold.

The yellow finches perched and sang
Their few notes sweet and loud,
Or drifted up against the blue—
A bright, melodious cloud.

But oh, but oh, the meadow-lark!
And oh! the song he sang!
All rapture, passion, tenderness
Ached through me while it rang.

And as I listening bowed my head
To hide the springing tear,
Lo, all about me violets!
And Spring herself was here.

—Ella Higginson.

Here Be My Loves

By JOHN VANCE CHENEY

HERE be my loves among the feathered things
The angels lend their tunes to, and their wings.

The lowly sparrows, cradled on the ground,
To hear earth's heart, and sing that happy sound;

The thrushes, they of melody so pure
Whether 'tis earth's or heaven's I am not sure;

The robins, who with their brave April note,
Start that abashing spasm midway my throat;

The bluebirds, talking in the apple-tree,
Luring my heart off somewhere over sea.



Jugging Yellow Jackets

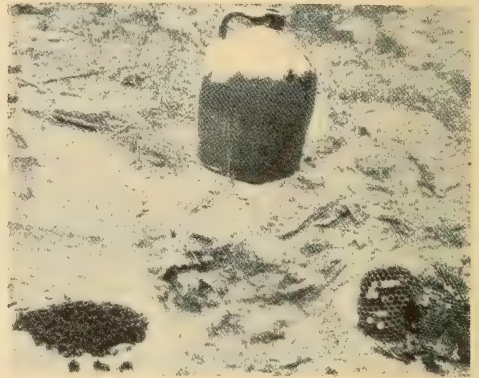
By A. R. M. SPAID

IT is a good thing to know how to destroy a troublesome colony of hornets or yellow jackets, but it is a better thing to watch these interesting creatures and discover their life history. When I was a boy among boys and we discovered a hornets' nest, we made our attack more cautiously than in the case of the wood wasp, for the *Vespa* hornet's sight is much keener than that of most *Polistes*, and her flight is swifter. Then, too, the hornet has a very irritable temper. Once disturbed she dabs at the first object that moves, and her aim is pretty accurate. To attempt to secure her inhabited nest seems to be a foolhardy undertaking, and few boys are brave enough to do it. Yet it can be done with very little risk. Watch for the moment when the outside of the nest is clear of hornets, then close the hole quickly with a wad of leaves large enough to stop the opening securely, cut off the limb to which the nest is attached, and run away before any of the absent hornets return. On the hole being unstopped the imprisoned hornets come out and fly back immediately to the old position of their home.

In taking a nest built on a cedar last July a pocket-knife with a black handle had been stuck into a large tree which stood about ten feet away. After the nest had been carried off and the hornets liberated they returned and, attacking the knife, stung it from nine o'clock in the morning until sundown.

Vespa, like her cousin, *Polistes*, begins her paper house in the spring, her home at first being no larger than a big pipe; but it gradually increases until a nest sometimes becomes two feet long. The hornets feed their young principally on insects, the common housefly being a favorite morsel of diet. It is while searching for these that the hornet makes a nuisance of herself and gets into trouble. She visits the farmhouse for flies, and her irascible temper leads her to sting somebody. If the nest cannot be located and destroyed, many of the colony may be caught in the following

manner: Take a timothy straw and impale the dead fly on the end of it. By holding this bait before the buzzing hornet she is easily induced to seize it, and while still clinging to her prey she may be thrust into a basin of hot water. In this way the members of a troublesome community may be greatly reduced.



A Nest of Hornets that Has Been "Jugged"

Vespa, the yellow-jacket, generally builds in the ground where a decayed log or stump has left the conditions suitable for an excavation. One species is partial to homes above ground, the branch of a young pine being a favorite location. Such nests, however, are liable to be rifled by the ants; at least, I have found many deserted nests in which the larvae were being eaten by the ants. Hornets sometimes prey upon a colony of yellow-jackets with telling effect, catching and carrying many of them off to feed their own young. Before the season is over a yellow-jackets' nest, started by a single female, may contain several thousand black-and-yellow-banded wasps. Their nests are often destroyed by skunks and foxes, who dig out the colonies at night and eat both old and young. It is a serious matter for a plowman, sometimes a mere boy, to turn up a nest of mad yellow-jackets, which, by attacking the team, may cause a runaway. They cling to the horses

(Continued on page 32)



SONG SPARROW.
(*Melospiza fasciata*).

The Song Sparrow

By ELIZABETH H. WILKINS

WHILE men are speculating on the truth of the statement, that "wealth lessens, rather than increases, human happiness," the ecstatic notes of the song sparrow are offering ample proof that, in the bird-world at least, happiness is not dependent upon fine feathers or luxurious quarters. During the cheerless winter days, although his dusky little form is indistinct among the dead leaves of the frozen thicket, this brave bird sends a thrill of joy through every heart, as his song, clear and rapturous, rises above the hoarse moan of the wintry wind, and mingles with the swirling snowflakes.

It is not unusual to find a song sparrow now and then in mid-winter, as far north as Massachusetts. But this season no deep snows have cut off his food supply, consequently he and his fellows have sojourned with contentment, the entire winter, in the New England and Middle States. His stout bill has enabled him to find many a tasty morsel beneath the hard, dry skin of poke berry or thorn apple; and the seeds of golden-rod, asters, and Joe-Pye weed have afforded him sumptuous fare.

Unless one has been attracted by his song or the "metallic chip," with which he is likely to assail his observers, he might easily be taken for any one of his numerous relatives. However, plain as is his dress, it has several characteristics peculiar to him. His brown coat is streaked with unobtrusive grays and black; and through the dark patch on his head runs a light line, giving him the appearance of having his hair parted in the middle. The brown dabs on his grayish-white breast are as distinct as if put on with a paint brush, except in the center where they run together forming a dark blotch. This is well described by the little boy, who, after coming to grief at an afternoon tea party, espied a song sparrow and exclaimed, "See, mother, he too has spilled his cup of chocolate on his clean, white blouse."

In his simplicity of dress lies the safety of this darling of the lowlands. He is distinctly a ground bird. The nest is always built on or near the ground, and he never indulges in lofty flight. His favorite haunts are among the alders by damp meadows and water courses. He is the ardent lover of *Rhodora*, the jovial comrade of *Arethusa* and *Iris*. It is no wonder then, since his coat so well harmonizes with the grasses and sedges in which he lives, that he is no easy prey for his enemies.

I have often watched a brooding mother, at a distance of not more than six or eight feet, but, with the exception of her little beadlike eye, could not distinguish her outline from the rootlets, grasses, and strips of bark of which her humble nest was made.

The eggs, too, are well adapted to their surroundings. The bluish-white ground is so covered with brown specks and patches, that the eggs attract no more attention than so many pebbles.

But it is his never-failing exuberance of good spirits that has made the song sparrow the favorite of the bird-lover. It is said that he sings throughout every month of the year, regardless of sunshine or shadow. His song may have its variations, but the quality and general theme are ever the same. It consists of but two measures. The first is a sweet, strong note repeated two or three times with the regularity of a metronome; in the second measure, the voice takes a note a third below, repeating it five or six times with the same regularity, but with twice the rapidity. These last six or seven notes are often varied, but they are always uttered so quickly, that the song seems to terminate in a gurgling of merriment. It is a simple refrain, but it is the expression of a heart whose joyousness is infectious. The very air seems charged with his own cheerfulness, as, perched on a fence post or convenient shrub, he rises on his toes and elevates his topknot as if stretching upward to grasp

those first strong notes with greater fervor, then inflating his throat, he fairly quivers from head to foot with the enthusiasm of his song.

In his poem to the song sparrow, Dr. Henry van Dyke says:

He does not wear a Joseph's coat
Of many colors, smart and gay;
His suit is Quaker brown and gray,
With darker patches at his throat,
And yet of all the well-dressed throng
Not one can sing so brave a song.
It makes the pride of looks appear
A vain and foolish thing, to hear
His "Sweet—sweet—sweet—very merry
cheer."

A lofty place he does not love,
But sits by choice, and well at ease,
In hedges and the little trees
That stretch their slender arms above
The meadow brook; and there he sings
Till all the field with pleasure rings;
And so he tells in every ear,
That lowly homes to heaven are near
In "Sweet—sweet—sweet—very merry
cheer."



The Thristle

SUMMER is coming, summer is coming.

I know it, I know it, I know it.

Light again, leaf again, life again, love again,

Yes, my wild little Poet.

Sing the new year in under the blue.

Last year you sang it as gladly.

"New, new, new, new!" Is it then so new
That you should carol so madly?

"Love again, song again, nest again, young again,"

Never a prophet so crazy!

And hardly a daisy as yet, little friend,

See, there is hardly a daisy.

"Here again, here, here, here, happy year!"

O warble unhidden, unbidden!

Summer is coming, is coming, my dear,

And all the winters are hidden.

—*Alfred Tennyson.*

Maiden Hair Ferns as House Plants

By JANE FERGUSON

MY first attempt at growing wild maidenhair ferns indoors was made with large, healthy plants that grew on the cliffside. I dug the ferns, not too carefully, and after selecting some for house use, put the others in a moist, sheltered spot in my garden. The plants both in and out of doors lived a few weeks and then died. The next spring the ferns in the bed came up, but those in the dishes remained lifeless. The soil being the same in both cases, I concluded that the house plants received too much sunshine. At the next attempt I selected large plants, as before, and this time I secured the woods' earth, but I carefully excluded the sunlight, and, of course, air, and the ferns died, as before, while the garden ferns flourished.

This past spring I determined to succeed, and set myself to studying the conditions that surrounded the fern in its native element. I noticed that there was plenty of light on the cliff—but it was diffused, not direct. It struck me as remarkable that there was no wind-swept place on the cliffside. This last fact seemed to furnish the key to my problem, especially when I observed that my own successful fern bed was never wind-blown.

With so much enlightenment I set about my experiment once again, says the writer in a recent issue of "Country Life." This time I carried the fern dishes to the cliff, partially filled them with the loose, rocky soil (another essential), and then selected the tiniest shoots I could find.

I kept the ferns in the library, and at the slightest indication of a wind storm or sweeping breeze I moved my dishes to a protected part of the room. The tiny plants began to grow rapidly, and my results are fully compensating me for my years of study and effort to attain them. When I give my ferns the benefit of a gentle rain or the outside air, I carefully shield and protect them from a wandering breeze.



“ Digging Bait ”

The Kingfisher's Kindergarten

By WILLIAM J. LONG

(Author of "The Wood-Folk Series," "A Little Brother to the Bear," etc.)

KOSKOMENOS, the Kingfisher, still burrows in the earth like his reptile ancestors; therefore the other birds call him outcast and will have nothing to do with him. But he cares little for that, being a clattering, rattle-headed, self-satisfied fellow, who seems to do nothing all day long but fish and eat. As you follow him, however, you note with amazement that he does some things marvelously well—better indeed than any other of the wood-folk. To locate a fish accurately in still water is difficult enough when one thinks of light-refraction, but when the fish is moving and the sun glares down into the pool and the wind wrinkles its face into a thousand flashing, changing furrows and ridges—then the bird that can point a bill straight to his fish and hit him fair just behind the gills must have more in his head than the usual chattering gossip that one hears from him on the trout streams.

This was the lesson that impressed itself upon me when I first began to study Koskomenos and the object of this little sketch, which records those first strong impressions, is not to give our kingfisher's color or markings or breeding habits—you can get all that from the bird books—but to suggest a possible answer to the question of how he learns so much, and how he teaches his wisdom to the little kingfishers.

Just below my camp, one summer, was a trout pool. Below the trout pool was a shaded minnow basin—a kind of storehouse for the pool above, where the trout forged in the early and late twilight, and where, if you hooked a red-fin delicately on a fine leader and dropped it in from the crotch of an overhanging tree, you might sometimes catch a big one.

Early one morning, while I was sitting in the tree, a kingfisher swept up the river and disappeared under the opposite bank. He had a nest in there, so cunningly hidden under an overhanging root that till then I had not discovered it, though I had fished

the pool and seen the kingfishers clattering about many times. They were unusually noisy when I was near, and flew up stream over the trout pool with a long, rattling call again and again—a ruse, no doubt, to make me think that their nest was somewhere far above.

I watched the nest closely after that, in the intervals when I was not fishing, and learned many things to fill one with wonder and respect with this unknown, clattering outcast of the wilderness rivers. He has a devotion for his mate, and feeds her most gallantly while she is brooding. He has courage, plenty of it, and one day drove off a mink and almost killed the savage creature. He has well-defined fishing regulations and enforces them rigorously, never going beyond his limits and permitting no poaching on his minnow pools. He also has fishing lore enough in his frowsy head—if one could get it out—to make Izaak Walton's discourse like a child's babble. Whether the wind be south or northeast, whether the day be dull or bright, he knows exactly where the little fish will be found, and how to catch them.

When the young birds came the most interesting bit of Koskomenos' life was manifest. One morning as I sat watching, hidden away in the bushes, the mother kingfisher put her head out of her hole and looked about very anxiously. A big water-snake lay stretched along a stranded log on the shore. She pounced upon him instantly, and drove him out of sight. Just above, at the foot of the trout pool, a brood of sheldrake were croaking and splashing about in the shallows. They were harmless, yet the kingfisher rushed upon them, clattering and scolding like a fishwife, and harried them all away into a quiet bogan.

On the way back she passed over a frog, a big, sober, sleepy fellow waiting on a lily-pad for his sunbath. Chigwoolz might catch young trout, and even little birds as they came to drink, but he would surely never molest a brood of kingfishers; yet the



KINGFISHER.
(*Ceryle alcyon*).
♂ Life-size.

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Two Broods Ready for Their First Kindergarten Lesson

mother, like an irate housekeeper flourishing her broom at every corner of an unswept room, sounded her rattle loudly and dropped on the sleepy frog's head, sending him sputtering and scrambling away into the mud, as if Hawahak the hawk were after him. Then with another look all around to see that the stream was clear, and with a warning rattle to any wood-folk that she might have overlooked, she darted into her nest, wiggling her tail like a satisfied duck as she disappeared.

After a moment a wild-eyed young kingfisher put his head out of the hole for his first look at the big world. A push from behind cut short his contemplation, and without any fuss he sailed down to a dead branch on the other side of the stream. Another and another followed in the same way, as if each one had been told just what to do and where to go, till the whole family were sitting a-row, with the rippling stream below them and the deep blue heavens and the rustling world of woods above.

That was their first lesson, and their reward was near. The male bird had been fishing since daylight; now he began to bring minnows from an eddy, where he had stored them, and to feed the hungry family and assure them, in his own way, that this big world, so different from the hole in the bank, was a good place to live in, and furnished no end of good things to eat.

The next lesson was more interesting, the lesson of catching fish. The school was a quiet, shallow pool with a muddy bottom against which the fish showed clearly, and with a convenient stub leaning over it from which to swoop. The old birds had caught a score of minnows, killed them, and dropped them here and there under the stub. Then they brought the young birds, showed them their game, and told them by repeated examples to dive and get it. The little fellows were hungry and took to the sport keenly; but one was timid, and only after the mother had twice dived and brought up a fish—which she showed to the timid one and then dropped back in a most tantalizing way—did he muster up resolution to take the plunge.

When I saw the family again, weeks afterward, their lessons were well learned; they needed no wounded or captive fish to satisfy their hunger. They were full of the joy of living, and showed me one day, a curious game—the only play that I have ever seen among the kingfishers.

There were three of them, when I first found them, perched on projecting stubs over the dancing ripples, which swarmed with chub and "minnies" and samlets and lively young red-fins. Suddenly, as if at the command *go*, they all dropped bill first into the river. In a moment they were out again and rushed back to their respective

stubs, where they threw their heads back and wriggled their minnows down their throats with a haste to choke them all. That done, they began to dance about on their stubs, clattering and chuckling immoderately.

It was all blind to me at first, till the game was repeated two or three times, always starting at the same instant with a plunge into the ripples and a rush back to goal. Then their object was as clear as the stream below them. With plenty to eat and never a worry in the world, they were playing a game to see which could first get back to his perch and swallow his

fish. Sometimes one or two of them failed to get a fish and glided back dejectedly; sometimes all three were so close together that it took a deal of jabber to straighten the matter out and they always ended in the same way, by beginning all over again. I once saw two broods that had gathered together for one of the rare moments when the kingfisher is a sociable creature. They were jabbering like a flock of blackbirds between their plunges, forgetting for the moment that they were lonely outcasts in the rare fun of playing their unnamed game.—*Country Life in America*.



A Solitary Fellow, With Few Pleasures and Fewer Companions to Share Them With

Raising Squabs

By H. B. BLACKMAN

A NEW industry in the Middle West is the raising of squabs for market. A few years ago there was but one large squab-raising "plant" in Iowa. The owner guarded the methods carefully and kept all mention of his industry out of the newspapers and magazines, apparently hoping to keep others out of the business. Notwithstanding, other large plants have sprung up all over the state of Iowa. Nobody can monopolize a business with so few drawbacks as squab raising.

Only a few general rules must be observed. The breeding pigeons must have nesting houses free from dampness and draughts, and the yards must be safe from cats and poultry-killing animals. They are strictly grain-eating birds, and must be well supplied with sharp grit, and should have access to shallow water, for they are hard drinkers and good bathers. It is not necessary that their building be large or handsome.

In more thickly settled communities it is advisable to keep them confined within a wire enclosure; for where they are kept in large numbers they are a nuisance to farmers, and would be shot by every wandering hunter. Some idea of the amount of grain consumed by the birds is given by the statement that forty bushels are fed every day to 30,000 pigeons on a California pigeon ranch.

Squabs from these countless thousands of pigeons find ready sale in the Coast cities at good prices. At the age of four weeks squabs are nearly full-feathered, and as the old birds are still feeding them, are fatter and plumper than they would be two weeks later. Most of the birds are white. Some people imagine that white feathers make white flesh, but such is not the case. The flesh of some dark-feathered birds is as white as that of white birds.

In the warm climate of California, which is perfectly adapted to squab raising, outdoor nests are suitable, but where the mercury goes down to twenty degrees below zero and tarries there for three days, indoor nests must be provided in a warm building. These nests should be made in pairs, a six or seven-inch board dividing them, for when one pair of nestlings is about two weeks old, the mother bird will lay two more eggs in the adjoining nest and begin incubating them. The male bird is very devoted, feeding the young and taking his turn on the nest. The change is usually made about ten o'clock in the morning and five o'clock in the afternoon, the male bird sitting during the day. The habits of pigeons are a very interesting study.

A person engaging in the squab-raising business should have capital enough to enable him to stand a few losses uncomplainingly, for some birds will die with the best of care and precautions. And, again, some commission man may dampen the breeder's ardor by notifying him that his squabs were heated, or too thin, or were not fitted as the market required, but all these difficulties can be overcome with patience and experience.



The Best Canary

The best singers, among canaries, are found in the strain known as St. Andreasberg. These are selected, while young, with reference to their vocal abilities, all ordinary birds being rejected. The "chosen few" are given special training by men skilled in this business. Their song, is wonderfully soft and sweet and includes trills, runs, and what are called "water bubble" notes, in great variety. American dealers import them in November. One never tires of these birds, whose song is as superior to that of the ordinary canary as that of the mocking-bird is to the chatter of an English sparrow.

Jugging Yellow Jackets

(From page 20)

and bite and sting with a viciousness unknown to the majority of wasps.

The best way, perhaps, to destroy these colonies, says Mr. Spaid in "Country Life," is by the sure method which has been used in the South for generations, and is called "jugging" yellow-jackets. When a nest is found a gallon jug two-thirds full of hot water is placed near the opening to the underground community, and the yellow-jackets are then stirred up by beating the ground over the nest with a long pole. The angry wasps swarm out and attack the jug. The loud buzzing in the space above the water seems to increase the wrath of the others, and they also find a watery grave. Bumblebees may be caught in the same manner. The illustration shows a community thus destroyed. The dark space in front of the jug contained the nest, a decayed pine stump having made the excavation easy. To the right lies the nest with the paper covering removed from above. The six tiers of comb are so arranged as to show the last one made—the one the farthest below ground when the nest was in position. This is the most interesting comb of all, for it was specially constructed for the males and females, the large cells and snowy-white caps being in strong contrast to the ordinary comb which produces the workers or neuters. To the left on the stone are the yellow-jackets caught in the jug—785; not a large colony, for I have known as many as 2,693 to be taken from one nest, 1,858 having gone into the jug the first time. In front of the heap of workers are three females, showing their large size. These fully developed females, as well as the males, are produced during the month of September, and, as in the case of the other wasps, the females alone survive the winter and start the new communities in the spring, the males and the hosts of workers dying in the fall.



In the Shadow

Life is lived most truly in the shadow of a great expectation,—expectation of we know not what, whether a task or a vision.
—*Maurice Maeterlinck.*

The Junco

By NELTJE BLANCHAN

(In "Bird Neighbors.")

LEADEN skies above; snow below," is Mr. Parkhurst's suggestive description of this rather timid neighbor, that is only starved into familiarity. When the snow has buried seed and berries, a flock of juncos, mingling sociably with the sparrows and chickadees about the kitchen door, will pick up scraps of food with an intimacy quite touching in a bird naturally rather shy. Here we can readily distinguish between these "little gray-robed monks and nuns," as Miss Florence Merriam calls them.

They are trim, sprightly, sleek, and even natty; their dispositions are genial and vivacious, not quarrelsome, like their sparrow cousins, and what is perhaps best about them, they are birds we may surely depend upon seeing in the winter months. A few come forth in September, migrating at night from the deep woods of the north, where they have nested and moulted during the summer; but not until frost has sharpened the air are large numbers of them seen. Rejoicing in winter, they nevertheless do not revel in the deep and fierce arctic blasts, as the snowflakes do, but take good care to avoid the open pastures before the hard storms overtake them.

Early in the spring their song is sometimes heard before they leave us to woo and to nest in the north. Mr. Bicknell describes as "a crisp call-note, a simple trill, and a faint, whispered warble, usually much broken, but not without sweetness."



The Blackbird's Whistle

THE blackbird's whistle is very human, like a human being playing the flute; an uncertain player, now drawing forth a bar of a beautiful melody—then losing it again. He does not know what quiver or what turn his note will take before it ends; the note leads him and completes itself.—*Richard Jeffries.*



My Bird Family

By CRAIG S. THOMS

SEVENTEEN children are a good many for a twentieth century family; yet this is the number of birds that regularly come into my backyard, and for whose visits I watch as eagerly as ever did mother for returning sons and daughters.

In the spring the bluebirds are the first to greet me; they usually come in late March to peep in at last year's nest, which they built in an old flicker hole that I found in a dead branch and set up in my yard for them. They found their nest as they had left it in the autumn, and seemed pleased. During April they are in and out every few days to make friendly calls, and to see that no other birds usurp the nesting place where they successfully reared last year's brood. Nearly every time they come they have a passage at arms with the English sparrows, just to keep them well reminded of the many times they were whipped last year. Although the sparrows are numerous, strange to say, none of them dare to build in the bluebird's home, though the bluebirds are absent for days at a time. The question of ownership was settled last year in many encounters in which the bluebirds demonstrated their powers, and now the sparrows keep at a respectful distance.

What dear old friends the robins are! plain, honest, sociable. How could we keep our lawns and gardens without them? Their train is on time every spring, and the same ones, accompanied by others, alight at the same depot. Home again! and a thousand times welcome. "Have a drink from the pan at the hydrant; snatch a worm from the lawn; take a bath in the wooden trough; sing from the same old tree and build your nest among its shady branches; your young I'll protect if I have to kill every cat in the neighborhood."

The goldfinches peep in on me every spring just to tell me that they have not been far away, but did not like to be seen until the homely, work-a-day garb of

winter had been discarded for the new wedding suit of gold and black. They perch upon my gate; swing upon some long spears of grass by the back fence; take a sip of water from the trough; and, in the sweetest notes that bird ever uttered, tell me that love never changes, that it is the same in winter as in summer, and as faithful in plain plumage as in gay.

The wood-thrush calls very informally. He slips in to the back fence, perches there a while, and looks at the house wistfully to see if I am at home. Bless his heart! He has come to invite me to the ravine grove—which is to hold his nest—to hear his matin songs. And I'll go; for there are no songs like his, save that of his near cousin—the hermit-thrush. It is a song of the heart, and of the truest, sweetest and most innocent heart among all the feathered folk. It is an evening prayer of thanksgiving—such a mingling of hope, contentment and thankfulness as I have heard from no other voice in Nature.

One morning in May, as I look out of the window, I seem to see many wood-thrushes; but upon looking more closely, I observe that they are a little smaller, slightly more olive-colored, and not so heavily spotted upon the breast. The veerys are migrating. They have dropped out of the dark—for most birds migrate at night—to rest and feed and renew old associations. I see them every year, whether the same ones or not, I can not say. For a few days the premises are theirs; they hop along the walk, perch upon the fence, rest upon the wood-pile, come to the very door as though for food. Then next morning, or a few mornings later, when I look for them, they are gone. Farther north you will find them singing love songs and building nests.

Every spring the catbirds look in from the back fence in about the same way. I see them first on the lower board. Evidently they want to survey the premises without being seen. When satisfied it is

really the same place that they left in the autumn, and that they will be as safe here this year as last, they scud across my neighbor's lot to explore the prospect of a nesting place in the bushes that skirt his garden. Their visits become regular now, and the birds grow bolder with each meal. Their favorite hopping place is the cap-board of the fence at the back of the yard, where they are safe from tabby, and can see what enemies or rivals are about. When the coast is clear, they dash across the lawn to take a sip of water from the pan under the hydrant's dripping nozzle, or snatch a morsel of food from the dish on the raised platform that I made, lest my neighbor's cat steal upon them unawares. Often a strain of music rewards me for my attention to their wants, and their finest selections—for the catbird has many—are usually given on cloudy or rainy days, when, seemingly, they think I need them most.

Whether the catbird or kingbird calls on me first, I do not remember, but there is not much difference. Do birds know that we care for them? They seem to feel so contented and protected when near us if we do. Some morning in May, as I study at the open window, I hear a familiar "Bee-bee-bee," and, looking out, there sits the kingbird on the identical spot on the clothesline wire that was such a favorite place with him last year; and he seems to feel as safe as though all my time were spent in guarding him from harm. His notes are not a song, for he is not from a singing family, but just to apprise me of his presence, and let me know that he has run the gauntlet of dangers successfully all the way to South America and back. His plumage is brighter than when he left in the autumn, as though his grayish-black coat had been thoroughly brushed. Last year his mate selected a high box elder at the foot of the yard in which to build their nest, and it came near being made of the family linen, for several times I observed him make a dive at some handkerchiefs which had been spread upon the lawn to dry. They proved too heavy for his wings, however, and some bits of rags and cotton batten were substituted, which he bore off in triumph. I am sure they would build there again did they know of the nesting material I have on

hand for them. When nesting time arrives I shall exhibit my treasures and see if I can not persuade them to bring their nest to the materials.

For a little while each spring the worms seem to be getting the better of my box elder trees, sometimes almost stripping them of leaves; but I am compensated in part by the songs of the rose-breasted grosbeak that feeds and sings by turns in their high tops. What a smooth, flowing, limpid strain it is! Yet, at times in the ardency of his love it rises so nearly to the ecstatic quality of the oriole's song that I have not infrequently mistaken one for the other. This somewhat lethargic finch has never paid any attention to the food and water which I place for the other birds. He seems to have small powers of observation and to be fully absorbed in



Two Babies in the Family

his own affairs. His mate never brings her nest into my yard like those of the oriole, robin, kingbird, bluejay, and wren. I usually find it in a grove just out of the city, or in some wooded ravine, not quite near enough to be friendly, nor far enough away to be exposed to the dangers of the wild.

One week in May the worms of my box elder trees brought me a visitor that I can hardly reckon in my bird family. The bobolink, as all know, is a bird of the low meadows; but for three or four days one fed in my tree-tops and regaled me with the bubbling, rippling, gurgling, irrepressibly ecstatic strains that come from the throat of no other startling, and which carried me back to my barefooted days when these birds were so plentiful upon the yet unbroken meadows of Illinois.

No other member of my bird family is so erratic in his coming and going as the flicker. Only this morning I heard his loud scream from a half dead tree at the back fence. A downy woodpecker has been busy all morning excavating a nesting place in one of its branches, and I presume the flicker came to drive him away just for the amusement of it; and what I heard was a shout of derisive laughter at the ease with which the feat was accomplished.

The bluejay I have with me always. There is not a month in the year that he does not enter the yard. He gobbles up my suet and nuts in winter; feeds from the scrap pail and drinks from the water pan in summer; tries to steal the eggs from the robin's nest in the silver maple; and takes his whole brood trooping across the premises in early autumn. If his mate can not find a better place she builds her nest in the tree that overhangs my walk, and expects me to guard her young from the neighborhood cats when, with short tails and inadequate wings, they come bumping upon the lawn from the nest.

For real companionship the black-capped chickadees are my favorites. They seem to appreciate every billful that you provide for them; they do not scamper off as soon as spring arrives, but return occasionally, not for food, but out of sheer friendliness. They do not leave one until household duties actually compel them to woods or orchards. In the autumn they bring their young to show how kindly the season has dealt with them; and the more they bring the more you are pleased.

When the house wren arrives, business in the bird world seems to begin in earnest. Of course, it has been going on all the time, but hardly with the proper eclat. Upon the wren's arrival, steam seems to be turned on; the buzz of wheels seems to be heard; things move. Without my pair of wrens, I should certainly think that summer affairs in my back yard lacked superintendence and push. I seem to feel relieved when they come; and when they depart, an added responsibility seems to rest upon my shoulders.—*American Homes and Gardens.*

A Rare Aztec Relic

WHILE excavating on his ranch in the Montezuma valley, near Dolors, Thomas Elmer uncovered what local experts declare to be one of the rarest Aztec relics.

It is a bird carved of stone and inlaid with turquoise. The wings are outspread and inlaid with turquoise, as is also the back of the bird.

The stone from which the bird was carved is hematite, a mineral of a high degree of hardness. No other relic of such artistic value has ever been discovered in this section of the country, once inhabited by the Aztecs.

The relic is valued at \$2,500. When found it was in the mouth of a skeleton.



A La Belle Etoile

O H, who will lodge at my inn to-night,

And live both fair and fine,
With a blossoming blackberry vine for a gate,
And a friendly star for a sign?

Good sir, my inn is a gentle inn,
The wine is sweet and old;
'Tis Adam's, sir, with a fine bouquet,
And the color of liquid gold.

The carriages roll on the rocky road
To a musty house afar;
But the gentlefolk stop by the blackberry gate,

At the Inn of the Beautiful Star.

Sweet fern, sweet fern for your pillow, sir,
And a quick-eared fawn for your mate,
And a firefly's light for your candle bright—
Good sooth, we sleep in state.

The winds go murmuring by at dusk
And call you up at dawn,
To walk through the fairies' handkerchiefs
And startle a sleeping fawn.

When day is red on the river's bed,
And bright on quartz and spar,
We'll say our short St. Martin's grace
At the Inn of the Beautiful Star.

We'll wish you good luck from the blackberry gate.

Although you wander far
'Tis here that you'll come home at last,—
To our Inn of the Beautiful Star.

—Sara Hamilton Birchall.

Peter Rabbit

By BEATRIX POTTER

(Author of "*The Story of Benjamin Bunny*."')

This story of the catastrophe which befell "Peter Rabbit," who disobeyed his mother and crawled under the gate, has delighted thousands of boys and girls—big and little. It is reprinted here for the many youthful readers of this magazine—though "grown ups" may read it if they want tell.

I.

ONCE-UPON-A-TIME there were four little rabbits, and their names were—

Flopsy,
Mopsy,
Cotton-tail,
and Peter.

They lived with their mother in a sand-bank, underneath the root of a *very* big fir-tree.

II.

"Now, my dears," said old Mrs. Rabbit one morning, "you may go into the fields or down the lane, but don't go into Mr. McGregor's garden; your father had an accident there; he was put in a pie by Mrs. McGregor."

III.

"Now run along, and don't get into mischief. I am going out."

IV.

Then old Mrs. Rabbit took a basket and her umbrella, and went through the wood to the baker's. She bought a loaf of brown bread and five currant buns.

V.

Flopsy, Mopsy, and Cotton-tail, who were good little bunnies, went down the lane to gather blackberries;

VI.

But Peter, who was very naughty, ran straight away to Mr. McGregor's garden, and squeezed under the gate!

VII.

First he ate some lettuce and some French beans; and then he ate some radishes;

VIII.

And then, feeling rather sick, he went to look for some parsley.

IX.

But round the end of a cucumber frame, whom should he meet but Mr. McGregor!

X.

Mr. McGregor was on his hands and knees, planting out young cabbages, but he jumped up and ran after Peter, waving a rake and calling out, "Stop thief!"

XI.

Peter was most dreadfully frightened; he rushed all over the garden, for he had forgotten the way back to the gate.

He lost one of his shoes among the cabbages, and the other shoe amongst the potatoes.

XII.

After losing them, he ran on four legs and went faster, so that I think he might have got away altogether if he had not unfortunately run into a gooseberry net, and got caught by the large buttons on his jacket. It was a *blue* jacket with brass buttons, quite new.

XIII.

Peter gave himself up for lost, and shed big tears; but his sobs were overheard by some friendly sparrows, who flew to him in great excitement, and implored him to exert himself.

XIV.

Mr. McGregor came up with a sieve, which he intended to pop upon the top of Peter; but Peter wriggled out just in time, leaving his jacket behind him,

XV.

And rushed into the tool-shed, and jumped into a can. It would have been a beautiful thing to hide in, if it had not had so much water in it.

XVI.

Mr. McGregor was quite sure that Peter was somewhere in the tool-shed, perhaps hidden underneath a flower-pot. He



GRAY RABBIT.
1/2 Life-size.



Peter Sat Down to Rest

began to turn them over carefully, looking under each.

Presently Peter sneezed—"Kerty-schoo!" Mr. McGregor was after him in no time.

XVII.

And tried to put his foot upon Peter, who jumped out of a window, upsetting three plants. The window was too small for Mr. McGregor, and he was tired of running after Peter. He went back to his work.

XVIII.

Peter sat down to rest; he was out of breath and trembling with fright, and he had not the least idea which way to go. Also he was very damp with sitting in that can.

After a time he began to wander about, going lipity—lipity—not very fast—and looking all round.

XIX.

He found a door in a wall; but it was locked, and there was no room for a fat little rabbit to squeeze underneath.

An old mouse was running in and out over the stone doorstep, carrying peas and beans to her family in the wood. Peter asked her the way to the gate, but she had such a large pea in her mouth that she could not answer. She only shook her head at him. Peter began to cry.

XX.

Then he tried to find his way straight across the garden, but he became more and more puzzled. Presently, he came to a pond where Mr. McGregor filled his water-cans. A white cat was staring at some gold-fish; she sat very, very still, but

now and then the tip of her tail twitched as if it were alive. Peter thought it best to go away without speaking to her; he had heard about cats from his cousin, little Benjamin Bunny.

XXI.

He went back towards the tool-shed, but suddenly, quite close to him, he heard the noise of a hoe—scr-r-ritch, scratch, scratch, scritch. Peter scuttered underneath the bushes. But presently, as nothing happened, he came out, and climbed upon a wheelbarrow, and peeped over. The first thing he saw was Mr. McGregor hoeing onions. His back was turned towards Peter, and beyond him was the *gate*!

XXII.

Peter got down very quietly off the wheelbarrow, and started running as fast as he could go, along a straight walk behind some black-currant bushes.

Mr. McGregor caught sight of him at the corner, but Peter did not care. He slipped underneath the gate, and was safe at last in the wood outside the garden.

XXIII.

Mr. McGregor hung up the little jacket and the shoes for a scare-crow to frighten the blackbirds.

XXIV.

Peter never stopped running or looked behind him till he got home to the big fir-tree.

He was so tired that he flopped down upon the nice soft sand on the floor of the rabbit-hole, and shut his eyes. His mother was busy cooking; she wondered what he had done with his clothes. It was the *second* little jacket and pair of shoes that Peter had lost in a fortnight!

XXV.

I am sorry to say that Peter was not very well during the evening.

His mother put him to bed, and made some camomile tea; and she gave a dose of it to Peter!

"One table-spoonful to be taken at bedtime."

XXVI.

But Flopsy, Mopsy, and Cotton-tail had bread and milk and *blackberries*, for supper.

That's All!

Country Days

By NELLIE COUTANT

FROM the time the first spring beauties open their eyes, to the last autumn bonfire, the days in the country are crowned with delights. Not the least of these, from the boy's point of view, is the fact that here he is able to

admirers, with the hen with the ducklings a star attraction. Lady Methuselah, who is at least nine years old, and who never owns any but white chicks, receives her share of attention and admiration.

A near-by brook attracts the children as



"Just Wading"

have some animal for which to care. There are few things more pitiful than many a city child's longing for a pet. But here in the country, if they choose, Willie and Jenny may bring up a rabbit, a woodchuck or an orphaned lamb, and there is no one to object. Sam's dogs have room to wag their tails without protest from the neighbors, and Sam himself may indulge his propensity for base ball and other sports, and go in swimming twice a day in summer.

The poultry on the place, whether hens or ducks or turkeys, always has its ardent

surely as a plate of sugar does flies, and whether constructing wonderful forts and tunnels of sand, or taking part in mimic naval engagements, or fishing with a string and a bent pin, or just wading, the brook is one of the delights of summer. Probably there is some favored spot in the vicinity where tradition says fish have been known to bite, and it is a proud occasion when the boy appears with a string of beauties that he declares are *almost* too heavy for him to carry. Repeated allusions to these fish thereafter may cause the family



Salting Time

to wonder what they ever did with such a quantity, and the chances are ten to one that the boy never catches another fish in that particular place.

On sultry afternoons the girls generally prefer to drift about the lily-pond in an old boat, and twilight often brings father, mother and the baby here for an hour of sweet idleness.

In late June or early July the children run riot in the daisy-field—a wilderness of bud and blossom—with arms full of bloom, racing down hill amongst the tangle.

Wild asters mark the sure beginning of autumn, when all waste places are glorified with their drifts of purple and white. The children, creeping reluctantly back to school, speak of the best places to find paw-paws, and where the nuts grow thickest, and there are anxious inquiries as to what somebody charges to take nutting parties to desirable points beyond walking distance. The water melon is *passe*, and both boys and girls develop a sudden interest in the pumpkin crop, for the Hallowe'en lanterns are not to be lightly chosen. Then, too, a lunch of pumpkin pie and milk leaves no chance for comparison with nectar and

ambrosia. Mother is eagerly entreated to make just one, "for a starter," and, when made, graceless Tommy has been known to coax her out of the whole pie to be leisurely devoured on the sunny side of the wood pile.

Along about Thanksgiving comes the first snow, and sometimes the ice on the shallow ponds is pronounced safe by experts. Soon the children are inspecting likely-looking specimens of the fir, and the two older boys are finally entrusted with the cutting and bringing home of the Christmas tree.

From now on until the sugar-making season, with its whisper of coming spring, the family life centers closer around the hearth stone, with long evenings of recreation and study. In the big living room father may be seen with his paper, mother with her inevitable mending, some of the young people over their lessons and games, while Tommy, in the farthest corner, softly tunes his violin, preparatory to starting up a lively dance that will send all to bed in great good humor. For as the old song goes:

"Winter, too, its share will bring
Of cheer and healthful sport, Sir."

Photographing a Hawk's Nest

By WILLIAM I. FINLEY

IN the summer of 1898, while passing up the Columbia river on a fishing trip, we heard of a hawk's nest in a certain grove of cottonwoods. In spite of long and patient search, we failed to find it; the foliage was too dense. Early the next spring, before the leaves were out, we returned to the grove and discovered the nest near the top of a tree one hundred and twenty feet high. The tree measured over fourteen feet in circumference at the base, and the nearest limb was forty feet from the ground.

Eight feet below the nest, and on the south side, the trunk of the tree branched in such a way that the camera could be fastened a little above the nest on the opposite limb, in a good position for a picture, and with the sunlight coming from the right direction. To focus the camera, the photographer must strap himself to the limb and hang out backward over a sheer drop of one hundred and twenty feet. It was impossible for us to do anything that summer, but the next winter we laid our plans.

Early in the spring, writes Mr. Finley in narrating the story in "Country Life," our expedition was encamped before the great tree. A small cottonwood stood near by. With great care we chopped and sawed until it began to totter. With wedges we forced it over. There was a moment of intense anxiety as it started on its downward course; and then we saw its crown lodge in the crotch of the first large limb of the nest tree, full forty feet above the ground.

The felled tree now formed an aerial bridge, leading a third of the distance to the nest. Up this we clambered. The rest of the climb was hard and dangerous. We dug our climbing irons into the bark, lassoed the limbs above, and slowly made our way upward until, at last, we peered into the nest and discovered two large eggs, dull white and mottled with chocolate. It was an exciting moment.

Surely, a grander aerie was never chosen by any hawk! From where the mother

brooded over her eggs she could look straight up the Columbia river to where Mt. Hood lifted its rugged snow-clad peak. To the westward stretched a long line of ponds and lakes—the hawk's favorite hunting-ground. To the north the broad Col-



On the Lookout

umbia spread its expanse of waters, and in the distance loomed the dome-like peak of St. Helen's, gleaming with perpetual snow.

On the 19th day of April, when the nest



WESTERN RED-TAILED HAWK.
(*Buteo borealis calurus*).
2/3 Life-size.

PUBLISHED BY ATKINSON, MENTZER & GROVER, CHICAGO

was visited again, the shells were slightly cracked. Within the chalky prison-walls the infantile screams of the little hawks could be heard as they pounded feebly on the shell. The following day the hawklets had gained their freedom. What queer little wiggling things they were! By the 1st of May they were entirely covered with soft white down. They soon began to show fear of man. But a suit of white would never do for a hawk: a hunter must be covered with less conspicuous garments. A few days later, when we peered over the

The eggs, which were laid the first week in April, were hatched on the twentieth. These birds of prey required three times as long to reach maturity as a sparrow or a warbler, for it was six weeks, to a day, from the time they hatched until they left the nest. By the 1st of June, conditions had changed somewhat in the vicinity of the hawk's nest. The river had risen and the water surrounded the base of the tree. The spot could be reached only by wading through the woods for half a mile. Peering up through the foliage where we



A Characteristic Pose

edge of the nest, we discovered that dark pin-feathers had begun to take the place of the feathers of downy white: the birds were growing.

The young birds sometimes assumed striking poses, but conditions were not at all favorable to instantaneous photography. At first the mother showed them how to tear the food by holding it with their talons; but the hawk instinct soon took possession of the young, and they were eager to seize the struggling victims that were carried to them.

could get a glimpse of the nest, we saw the two young braves straining their necks and looking over at us. All went well as we ascended the tree, until the large fork was reached below the nest. Then one of the parents, with a great swoop downward and away from us, uttered two piercing shrieks. The command was instantly obeyed. The two young hawks sailed off through space as boldly as if they had been old birds. Over toward the Columbia they flew, and disappeared in the distance, while we gazed after them in sadness.

The May Home Coming

By C. WILLIAM BEEBE

FOR abundance and for perfection of song and plumage, of the whole year, May is the month of birds.

It is the migrants which we should watch, and listen to, and "ogle" with our opera glasses. Like many other evanescent things, those birds which have made their winter home in Central America—land yet beyond our travels—and which use our groves merely as half-way houses on their journey to the land of their birth, the balsams of Quebec, or the unknown wastes of Labrador, seem most precious, most worthy at this time of our closest observation.

The glories of our May bird life are the wood warblers, and innumerable they must seem to one who is just beginning his studies; indeed, there are over seventy species that find their way into the United States. Many are named from the distribution of color upon their plumage—the blue-winged yellow, the black-throated blue, chestnut-sided, bay-breasted, and black poll. Perhaps the two most beautiful—most reflective of bright tropical skies and flowers—are the magnolia and the blackburnian. The first fairly dazzles us with its bluish crown, white and black face, black and olive-green back, with marked wings and tail, yellow throat and rump, and strongly-streaked breast. The blackburnian is an exquisite little fellow, marked with black and white, but with the crown, several patches on the face, the throat and breast of a rich warm orange that glows amid the green foliage like a living coal of fire. The black poll warbler is an easy bird to identify; but do not expect to recognize it when it returns from the North in the fall. Its black crown has disappeared, and in general it looks like a different bird.

The flycatchers and vireos now appear in force—little hunters of insects clad in leafy greens and browns, with now and then a touch of brightness—as in the yellow-throated vireo or in the crest of the king-bird.

The lesser sandpipers, both spotted and

the solitary, teeter along the brooks and ponds, and probe the shallows for tiny worms. Near the woody streams the so-called water thrushes spring up before us. Strange birds these, in appearance like thrushes, in their haunts and in their teetering motion like sandpipers, but in reality belonging to the same family as the tree-loving wood warblers. A problem not yet solved by ornithologists is: What was the mode of life of the ancestor of the many warblers? Did he cling to and creep along the bark, as the black-and-white warbler, or feed from the ground or thicket as does the worm-eating? Did he snatch flies on the wing as the neck-laced Canadian warbler, or glean from the brook's edge as our water thrush? The struggle for existence has not been absent from the lives of these light-hearted little fellows, and they have had to be jack-of-all-trades in their search for food.

It would take too long to mention even the names of the birds that we may observe during a walk in May; and with bird book and glasses we must see for ourselves the bobolinks in the broad meadows, the cowbirds and rusty blackbirds, and, pushing through the lady-slipper marshes, we may surprise the solitary great blue and the little green herons at their silent fishing.

No matter how late the spring may be, says Mr. Beebe in "The Log of the Sun," the great migration host will reach its height from the tenth to the fifteenth of the month. From this until the first of June, migrants will be passing, but in fewer and fewer numbers, until the balance comes to rest again, and we may cease from the strenuous labors of the last few weeks, confident that those birds that remain will be the builders of the nests near our homes—nests that they know so well to hide. Even before the last day of May passes, we see many young birds on their first weak-winged flights, such as bluebirds and robins; but June is the great month of bird homes, as to May belong the migrants.

Field Notes

CONDUCTED BY JESSE L. SMITH

THE Editor of "Birds & Nature Magazine" has set aside this space for those of its readers who keep note books and make field records. It seems to the writer that an important service could be performed here in the exchange of notes relating to migration movements and geographic range and, in general, the contribution of exact data of value in bird biographies. It is hoped that there will be a ready response from the various sections of the country which "Birds & Nature Magazine" regularly visits, and that the reports of its correspondents may make this department one of the most interesting features of the magazine.

This number of the magazine will arrive at many points in a broad belt curving across from Massachusetts to northern Iowa, just at the time when the high tide of bird migration is beginning to be felt. To all bird lovers thus situated "Birds & Nature Magazine" wishes "good hunting" with opera glass and note book. The best hunting period is usually in the time of apple blossoms and is practically over when the petals begin to shower out of the tree tops. So while the gala days of migration last, there must be vigils early and late in orchard and city park and on the border of the forest tangle.

Some of us are only closing up the records of the winter visitants. In the Chicago region the pine grosbeak was reported as late as April 17, and on May 1, as this issue was nearly ready for the press, stray flocks of evening grosbeaks were yet haunting the box-elders at Highland Park, Illinois, where these notes are being written. The call of the northland had not yet thrilled this handsome visitor from Manitoba and the far north, although migrants from the south were steadily streaming in that direction. The rich song of the fox sparrow had given way to the pensive call of the white throat. The myrtle and magnolia warblers had been flitting about for two weeks, and the earliest palm and black and white warblers were appearing in the same range. To the writer the lingering of the evening grosbeak so far to the southern limit of its winter range seems noteworthy. Readers are invited to contribute to this department any records of the movements of this northern bird they may have made during the past winter.

The great interest of this month is, of course in the movement of the warblers. Usually the myrtle warbler is first to appear north of its winter range, being several days in advance of other warblers. One may expect it about the time the first ruby-crowned kinglets arrive to take the place of the golden-crowns. Then follow the palm warblers, the black and white warblers, and the black-throated blue warblers, and almost before one is aware the trees are fairly alive with darting, fluttering insect hunters of beautifully variegated plumage. The habit of warblers of moving in mixed flocks has its disadvantage for the amateur observer, who, in shifting his glass from one individual to another in the same tree to verify a partial observation, may find his attention hopelessly distracted by an entirely different species. Characteristic of this was the writer's observation last year when glanc-

ing out of the office window he saw a blackburnian, a bay-breasted and a chestnut-sided warbler in the same tree at the same time. One observer in northern Minnesota, during a single forenoon, counted 23 species of warblers from one spot in the woods.

The northward movement of warblers seems to be more leisurely than is generally supposed. As an illustration, the black and white warblers, according to W. W. Cooke, begin to strike at the light houses in southern Florida early in March, but it is the middle of May before this species has reached the Gulf of St. Lawrence. This same species passes New Orleans about March 27, spends more than a month on the way to the Chicago region, and arrives at Lake Superior about May 3. The latest comers among the warblers, such as the Canadian warbler, seem to travel faster than their predecessors. The average northward movement among the earlier warblers would seem to be about fifteen miles a day; among the later warblers perhaps twice that distance.

One starting out to learn to identify the warblers should confine attention to a few, and begin with those that have a wide nesting range, such as the red-start and the yellow warbler. These one can live with, as it were, and not only learn their distinctive markings, but come to know familiarly their songs and peculiar habits. The songs of many of the warblers are worth studying as aids to identification. Anyone who has learned the quaint, husky song of the black-throated blue warbler, for example, will have no trouble in finding this bird. It is suggested that before the beginner goes "a-warbling" he study carefully from pictures and text the characteristics of the more conspicuous warblers that may visit his locality. A list of ten for the middle range of the warblers might include the myrtle, palm, black and white, magnolia, black-throated blue, bay-breasted, redstart, ovenbird, yellow, and Maryland yellow-throat.

Note: Records and observations appropriate for this Department should be addressed to "Field Notes, care of Birds & Nature Magazine, Chicago," and should reach us not later than the tenth of the month.

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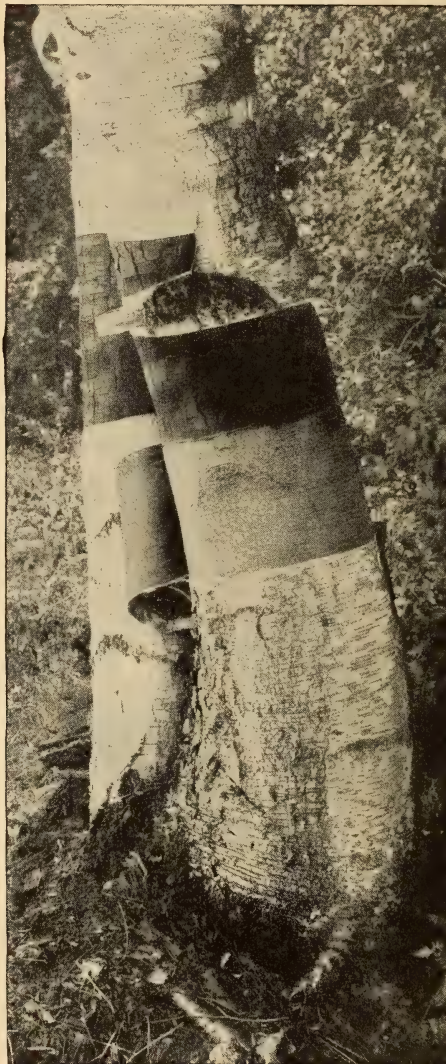
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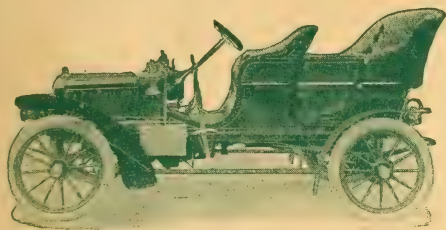
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